

TPM Volume-6

Total Preventive Maintenance

Inspection SEISO in Jishu-Hozen

& SEISO activity effect

2019a edition

Koichi Kimura



Factory Management Institute

COOPERATING TO REACH EXCELLENCE



ESP: Este trabajo está protegido bajo licencia Atribución-NoComercial-SinDerivadas 4.0 Internacional.

ENG: This work is licenced under the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0). To view a copy of this license, visit

<https://creativecommons.org/licenses/by-nc-nd/4.0/deed.es> and <http://creativecommons.org/licenses/by-nc-nd/4.0/> and <https://creativecommons.org/licenses/by/4.0/legalcode>. This work consists of 61 pages. The Factory Management Institute.

Author: Koichi Kimura. *Japan August-2018*. Translation, Adaptation & Edition: Eduardo García. *Spain & The Netherlands December-2018*



Sensei Koichi Kimura: International Consultant of the TPS (Total Productive System), TQM, TPM (Total Productive and Total Preventive Maintenance), Kaizen and Factory Management. Expert in the introduction and fixing of these ones through personal growth and assistance to the management for the change organization.

Sensei Koichi Kimura worked in Production **Gemba** for more than 45 years during which he developed the JIT production system as supplier for Toyota, Honda, etc. in the hard and variable field of automotive wiring systems in SUMITOMO Corp. from the position as a young engineer, to even as General Manager passing throughout internal & external consulting.

At time of publication and over the age of 75, he continues working on the dissemination of original Japanese methods and more knowledge even the one learned from the pioneers and, continues working as international consultant for the last 22 years in more than 11 countries, training clients, as a lecturer and writer. Even now, experimenting and researching innovative methods and growing in the field of Production Management and Corporate structuration.



Factory Management Institute

COOPERATING TO REACH EXCELLENCE



Título de la Versión Española:

Factory Management - TPM Mantenimiento Preventivo Total. Volumen 6 -2019a
SEISO en *Jishu-Hozen* y el efecto de la actividad SEISO

Title of English Version:

Factory Management - TPM Total Preventive Maintenance. Volume 6 -2019a
SEISO in *Jishu-Hozen* and effect of SEISO activity

Autor/Author:

Koichi Kimura – JAPÓN/JAPAN © 2018

<https://jp.linkedin.com/in/kouichi-kimura-2ba37152/en>



Traducción, Edición y Adaptación de la versión española:

Translation, Edition and Adaptation of the English version:

Eduardo L. García – The Netherlands & Spain © 2018

<https://es.linkedin.com/in/edulgg>



El Documento ha sido editado para su impresión en Doble Cara sobre DIN-A4 +
Encuadernación

This Document has been edited to Double-Side Printing over DIN-A4 + Bookbinding

“Factory Management Institute” es una organización en período de constitución a la fecha de la publicación de este trabajo: 1 de febrero de 2019. www.factorymanagementinstitute.com

“Factory Management Institute” is an Organization in the Period of Incorporation at the date of publication of this work: February 1st, 2019. www.factorymanagementinstitute.com

Nota Legal: Las marcas registradas mencionadas en este texto son propiedad de sus respectivos dueños.

Legal Notice: Trademarks mentioned in this text are the property of their respective owners.



INTERNET  ARCHIVE

Haga clic en la imagen para ver todas las lecturas del Factory Management Institute de Koichi Kimura, cargada permanentemente y para siempre en Internet-Archive.org

Click on Image or Scan QR-code to see all Factory Management Institute Lecture by Koichi Kimura, permanently & forever uploaded into Internet-Archive.org

CONTENT

I.	Introduction	6
II.	Inspection SEISO	9
	What is SEISO?	9
	Putting Cards	9
	Abnormality	11
	Firstly: Different abnormalities.	11
	Secondly: Cause and effect of abnormalities.	11
	Pika-Pika activity	12
	Why these abnormalities are left?... I tell you again 2 things.	15
	Firstly, the human real nature.	15
	And, secondly, It is necessary a proper "control".	15
	How I make the SEISO training to Gemba -Managers	16
	Manager's role.	19
	Wai-Gaya	20
	The Level of 5S in TPM	22
III.	Maintenance SEISO	27
	Attitude of Inspection SEISO	28
	Cultivation of people	29
	Oyaji-san of TOYOTA	29
IV.	5Ss	33
	A tale about 5S	33
	5Ss and Katazuke are different.	33
	Katazuke is "To Make KATAZUKE" (Tidy up):	33
	5Ss is:	33
	(4) Sound practice to corporate management.	38
	Strategy & "Practice" meanings:	39
	Social good practice.	40
	Social and company mixed.	41
	Company internal activity.	41
	Top down and bottom up.	41
	Influence of Sound practice (Europa & USA)	42
	The Gemba Air	42
	1. What is the one's own decision?	42
	2. The qualities of Gemba leaders, supervisors.	42
	Air?	42

V.	SaP.	45
	SEISO activity shook organization.	48
	To be made a habit of that. And the managers initiative facilitates it.	49
	Dialogue between practitioners and observers.	49
	Practitioners wish to identify the meaning.	50
	SaP	52
	The 6-months activity	56
	The summary to my student	57
	Gemba -Walk by manager.	61
	Gemba -Walk by office people.	61
	Gemba people.	62
VI.	Next Lecture	63

Icons:



Notes: Going and Comeback to the main theme.



Third level of the Issue, in order to provide more clearness to the structure of the text.



Lower levels of the Issue, commonly 6th or 7th And, pointing out necessary explanations about pictures or graphs.

UPDATING TABLE:

Date, Version-Previous è V-Next	Chapter (I..XX...)	Chapter Point.- sub-point : (Updating)
2018a to 2019a	I.-INTRODUCTION	Introduction Letter included

This page is intentionally black

I. Introduction

In this description I introduced the word of Mr. Okano. He said for responding the question of "Why not increase the scale of company?" as next:

"If increase employee more, it might not be possible to keep the precision of products."

Mr. Okano

His town factory has only 6 employees. But his factory is famous world widely.

If increasing the scale of factory, it becomes difficult to manage and control. Therefore, factory management method becomes important.

Now our theme is Seiso in Jishu-Hozen...

Maintenance Seiso is Inspection Seiso. Therefore, it is no meanings if the activity doesn't find abnormality.

Finding abnormalities is very easy in theory but is difficulty in mind.

Even though it is abnormal situation, sometimes people cannot recognize to be an abnormality. Or even though recognizing abnormality, people doesn't take proper action.

As an example, I visited a factory and at that time an operator was doing Seiri, Seiton and Seiso for the ending of his job. Then, I found a strange thing. There is a jig-tool stand which can identify the necessary jigs. And in the stand 2 jigs were missing. And I found that one was in the machine. But there wasn't another one. And I questioned him where is the tool?

—no there is not and for a long while —he responded and when he needs its jig, he borrows it from next machine.

I wondered... Why anybody doesn't take action to replenish it? ...So, this factory was very clean, and it seems to be very good 5Ss condition at first sight.

But why? Why this operator doesn't take proper action? And, didn't he feel this abnormality? ...No. He could feel this abnormality.

Then why he didn't take proper action which is just require the replenishment?... Why?

Maintenance Seiso is a fundamental activity in TPM. However, if it is just beautification, it not meaningful in Jishu-Hozen.

Clean up, but no finding abnormality. Cleaning up and found abnormality, but no taking action. There are also not possible to be the condition of Jishu-Hozen.

Therefore, Factory Management is required to seek not only the theory or methods, but also the mind realm.

And for cultivate sound mind, good practice in factory is required.

I have written SEISO in TPM-3, 4 and 5. And in this TPM-6 I write about Maintenance SEISO again. Therefore, there might be a part duplicated. But please accept.

Anyway, SEISO is so important for **Jishu-Hozen** which most essential part of TPM is.

At first, I will tell you that if your company doesn't implement Maintenance SEISO by the operators themselves, **Jishu-Hozen** might not be expected.

If your factory takes the style of outsourcing SEISO in 5Ss, you cannot cultivate the TPM mind.

I have written the word which:

"Operator is the person who breaks machine and the maintenance engineer is the person who repairs."

This situation is before stage of PM (Preventive Maintenance). And the next step is that:

"Operator is the person who uses machine properly and maintenance engineer is the person who maintains".

This level is still the bottom of PM.

And of course, our intention is to introduce the system of **Jishu-Hozen**. And this step is:

"Operator is the person who uses machine properly and participates the activity of maintenance and, the maintenance engineer is the person who maintains and educate & transfer the technique & job to operators."

The range of **Jishu-Hozen** is up to here.

Although, let me one note about the TPM final step:

In parallel management side is required to develop the managerial approach which is the establishment of management cycle as below:

- To visualize & numericalize. Activity Systemize. Policy building.
- Target setting & KPI. Kaizen action plan. Skill evaluation system & education. And;
- Necessary investment.

I will come back this theme in near future.

Anyway **Jishu-Hozen** is the essential part of TPM.

II. Inspection SEISO

What is SEISO?

It is not just to wipe and shine the outside of machine, but to clean up thoroughly the long-standing dirt caught in everywhere of the machine.

What is the purpose of Maintenance SEISO (SEISO Inspection)?... SEISO is Inspection. So, inspection is the discovery of abnormality.

And, Abnormality is the point of KAIZEN.

Then, it is necessary to clean up in opening various covers and lids, in draining oil and to look and touch every corner. Thinking about the original shape and function and finding the points of abnormality.

Therefore, the SEISO of no finding abnormality & defect is just clean up and not to be possible to call SEISO Inspection.



Putting Cards

In thorough SEISO (clean up) it is possible to find many points of something wrong or abnormalities. And it is important that always think the original function and shape.

Abnormalities found SEISO Inspection are put tugs (cards) and this activity is called "*Putting Cards*".

In the TPM-3, I introduced the Putting Cards activity and explained as next.

Above is an example of **Akafuda**. (**Aka**: Red. **Fuda**: card.)

The image shows a red rectangular card with a white border and a hole at the top. It contains several fields for recording defect information. Blue arrows point from English labels to the corresponding fields on the card:

- Place Defect Found (points to the top header area)
- Place. Machine No. (points to the '場所' field)
- Control No. (points to the '管理番号' field)
- Date (points to the '年月日' field)
- Found by whom (points to the '発見者' field)
- Contents & Phenomenon of defect (points to the large '内容' field)

At the bottom of the card, there is a small note: 'このカードは切り離してご記入ください。' (Please detach this card and fill it out.)

And in activity, it is possible to use various colours. Other examples:

- Machine functional defect: Red Card
- Safety concern: Blue Card.
- Environmental concern: Yellow Card.

And there are other use of tags (cards). For example.

- It is possible to deal with by operators themselves: Blue Card.
- It is necessary to require to maintenance Dept: Red Card.

Yellow Card			
AREA		CARD No: 0001	
CATEGORY	1	Water	6
	2	Air	7
	3	Oil	8
	4	Dust	9
	5	Paint	10
DATE		LOCATION	
PROBLEM DESCRIPTION			
SOLUTIONS			
CORRECTIVE ACTION IMPLEMENTED			
DEFINITIVE SOLUTION PROPOSED			
PRODUCED BY			

Put on the TPM panel

Name:	Date:	CARD NO. 0001	YELLOW LOCATION:
-------	-------	------------------	----------------------------

Attached to the point of problem

Red Card			
ARTICLE NAME		CARD No: 0001	
CATEGORY	4	Re-Manufacturing	8
1	Machinery	5	Inventory in proces
2	Accessories & Tools	6	Finished product
3	Material Raw	7	Office equipment
10	Other		
DATE		LOCATION	
QUANTITY	MEASURING UNIT		VALUE
REASON	1	Never needed	6
1	Never needed	2	Soon not nedded
2	Defect	3	Scrap
SPECIAL WAREHOUSING CONDITIONS			
1	Special ventilation	4	Horizontally in layers...
2	Fragile	5	Maximum stacking...
3	Explolsive	6	Optimal temperature...
PRODUCED BY		DEPARTMENT / SECCION	
DISPOSAL FORM	1	Discard	4
0	Complete disposal	2	Sell
Authorized sign by...		3	Other
DISPOSAL DATE		DELIVERY DATE	
1	Sell	Autorization sign:	
2	Discard		

Put on the 5S-panel

Name:	Date:	CARD NO. 0001	RED LOCATION:
-------	-------	------------------	-------------------------

Attached to the objet

Above examples of Yellow and Red Cards are referred to Maintenance problem and **5S-Akafuda** respectively.

By the way, there are the cases of to be possible to deal with immediately and to be not. Then the cases of not to be possible are required to make schedule.

Rules of Inspection in SEISO by Putting Cards:

- No compromise, any small abnormalities is put card.
- Proper judgement which to be possible to deal with by engineer or operator.
- Deal with by operator as much as possible.
- Cards of the items finished to deal with are possible to take off.
- Cards of not to finish should be remained until to finish.
- Activity report.



Abnormality

What are abnormalities?... To find abnormalities it is required the flexible mind. In this regard I must tell 2 things:

Firstly: Different abnormalities.

Abnormality has 2 phases as next.

- Abnormality (I temporally say "Direct abnormality") is the phenomenon which affects to the quality or productivity directory.
- And, another Abnormality (Indirect abnormality) is the phenomenon which hides above direct abnormality. Also, some kinds of indirect abnormalities have the characteristics of becoming direct abnormalities.

And both of abnormality harm Kaizen mind.

Secondly: Cause and effect of abnormalities.

A person can find & feel abnormalities. However, no matter how an abnormality is, a person does not try to improve it unless he/she recognizes that the abnormality has a causal relationship with quality and productivity as visually or numerically.

To get your good understanding I would use several photos which shows the situations before Kaizen

For instance, next photo. Pictrure-1.



We can see such scene in not only a medium and small factory but also a large factory.

Then, is such overflowed lubricant normal or abnormal?

Of course, it is abnormal and is indirect abnormality which doesn't affect to quality or productivity if using proper kind, quantity and in correct point.

In the first place an operator believes that a machine is dirty during use it and oil & lubricant and is combined that it is natural that machine is dirty.

But oil dirt gives bad influences on the production and life span of the machine.

The oil dirt with mixing material chips & powder cakes in the machine and causes machine troubles. Of course, the oil dirt is slippery and danger on the floor.

Oil dirt harms the senses of abnormality and improvement in TPM.

Unfortunately, it is quite difficult to get understanding by not only foreign factory, but in Japanese small factories also.

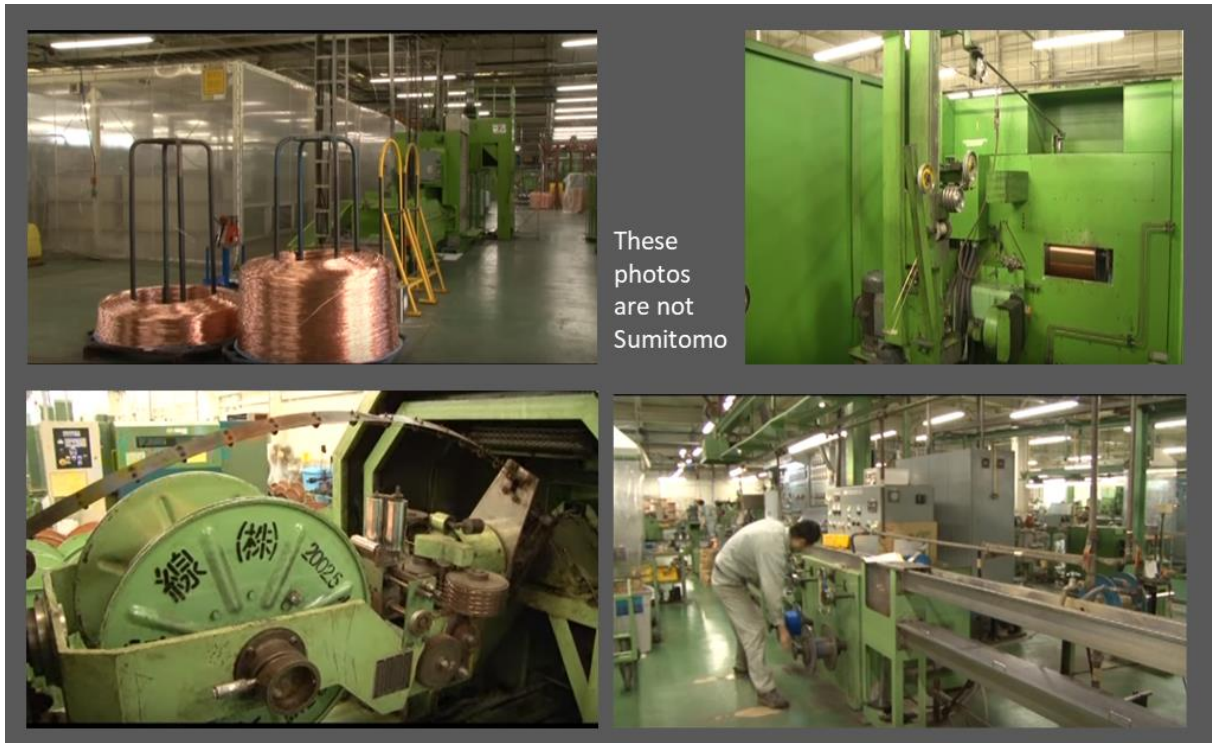
Pika-Pika activity

I wrote the case of my previous company SUMITOMO and the Pika-Pika activity.

For instance, one electric cable factory in the below pictures.

When visiting this factory, firstly it is required to put shoes covers. The purpose of the shoe covers use is to avoid the dirt from outside.

I think we can see such scene in the world. And particularly it is required in the factory which produce or use precision mechanical equipment. However, I believe there is no case of such electric cable manufacturing factory.



Above photos are the process of electric cable production. Above 4 photos are the process of copper wire drawing and supply side and copper wire coils. For example, supply 8mm diameter and draw to 0.08mm.

Lower photo left-hand side is a bunching & twisting process which bunches & twists multiple 0.08mm strands. Lower right-hand side is extruding process which covers plastic insulation on the copper strands twisted.

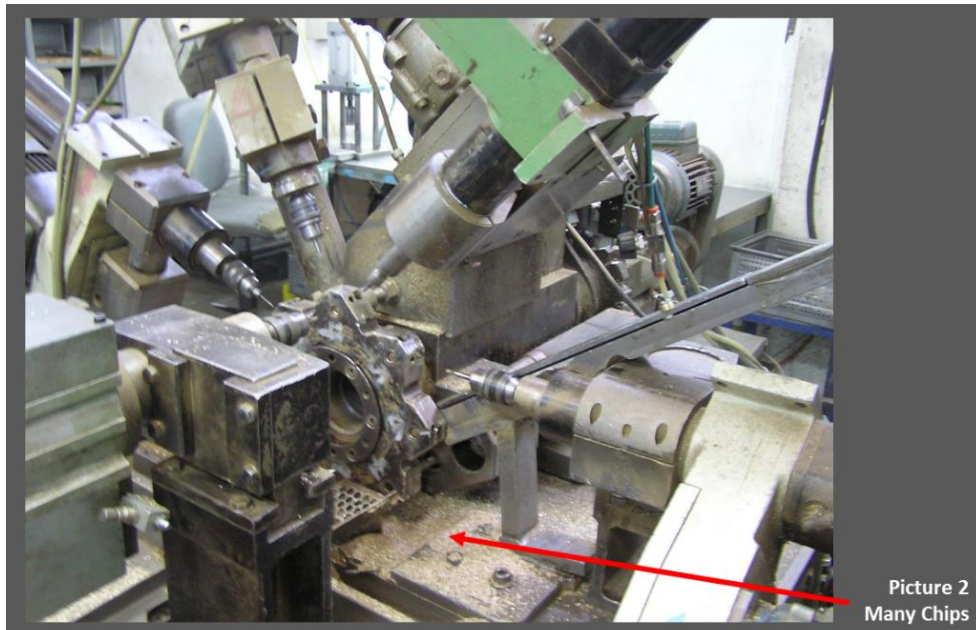
Obviously, the processes of drawing and bunching become dirty with copper powder and oil. And it is quite natural & normal in an electric cable factory. However, the Pika-Pika activity of Sumitomo Wiring Systems doesn't accept it and even the dust from outside, because of thorough 5Ss which even Toyota praises. Then the electric cable factory requires visitors to put shoe covers.

Now, is oil dirty while using machine abnormal?

The understanding of Pika-Pika activity is "yes", it is abnormal.

This is the case of not clear the causal relationship between the dirty and quality & productivity. Why to hate dirty to extreme?

But how to keep clean while using machine? I will write this in next description of "**Prevention of scattering**".



How about is above Picture-2?... There are many chips in this machine. And beside of this machine there is a red box for defective products.

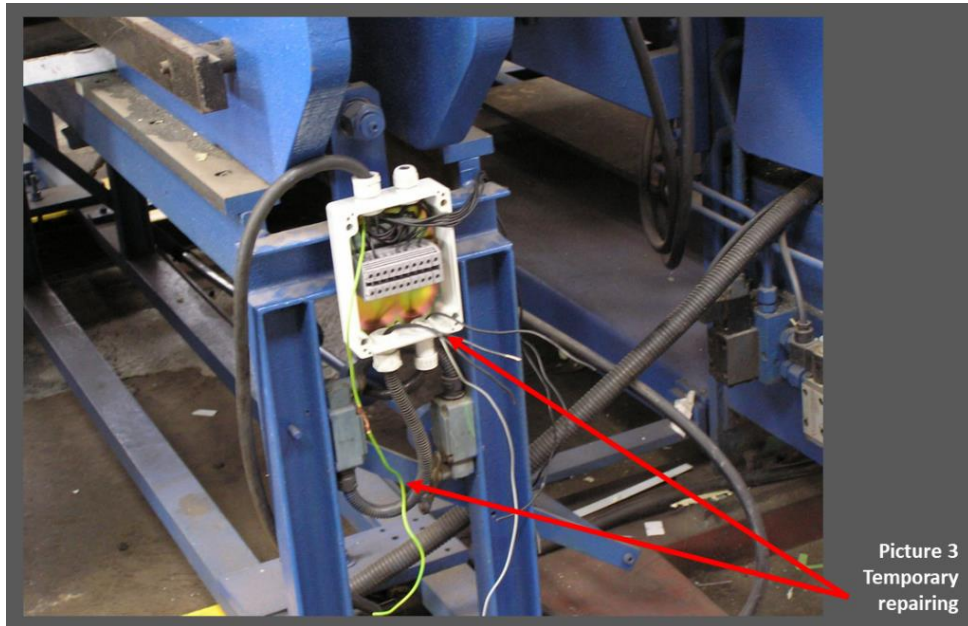
It is quite clear that this machine has the quality problems. But the causal relationship between the scattering chips and the defects.

This case also it wasn't clear the causal relationship between chips scattered and defect. And after the investigation of SQC (Statistical Quality Control), it became to be clear the main cause of the defect was the chips scattered.

I explained this case as the indirect abnormality. However, actually it was a main cause of the defect of this product. Also, we could recognize the chips accumulated affecting the machine troubles.

Then after understanding with numerical data, this **Gemba** took the action to improve quality.

Above Picture-3?... It is a temporary repair.



Above is not a scene of cottage industry, but foreign medium industrial company. We commonly see the scene of temporal repair. For instance, fixing a cover which missing bolt, with wire.

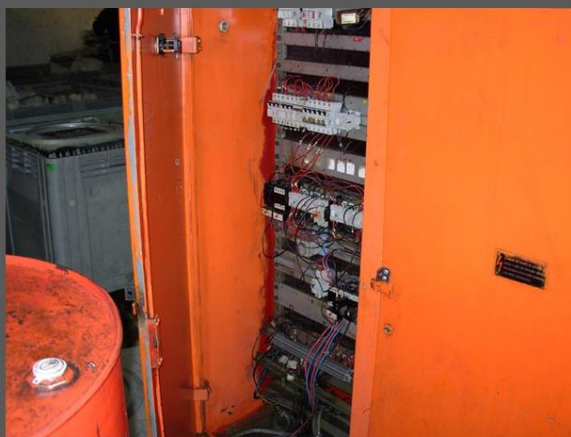
It is indeed there are many cases of temporary repair, temporary placing. Is above temporary repair normal or abnormal?... I believe there is no opinion which it is normal and, also, to justify.

Such situation is the problems before TPM and, the temporary repair and placement stop the thinking of TPM mind.

How about the next scene?... The situation is the door of a switchboard to leave open. But there is a reason to keep open the door. The reason of the door to be kept open is the heat. If to shut the door, the heat builds up and malfunctions. But as the notification in the door surface, it is danger.

Why does keep it open? Why leave the situation without the permanent measures?

Let's look at these examples in Picture 4 & 5.



Picture 4



Picture 5

This is the electric equipment of high voltage. Therefore, in the surface of the door, there is the mark of skull. It cannot be thought of in common sense. However when made conversation with the factory manager, he expressed his desire to improve quality and productivity as quite normal. And, his brain structure which I guess in his talk is common. But when looking around the **Gemba**, so many unusual things are there.

Why these abnormalities are left?... I tell you again 2 things.

Firstly, the human real nature.

Unfortunately humans want to go in an easy direction. And this is a thing like instinct.

Then **Gemba** people do temporal job which doesn't relates to his or her profit. Temporery job or repair should be re-worked. But this time also in his working hours.

It is quite natural that humans are lazy.

And, secondly, It is necessary a proper "control".

Control is to correct when occuring abnormality. Moreover, control is to correct when diverting from the thing decided (rule & standard).

By whom the factory control is made?... Of course to be made by **Gemba** Manager, Supervisor.

There seems to be a disease called manager disease. For instance next photo this machine is very dirty. Picture-6.



Is this situation normal or abnormal?... Of course, it is completely abnormal. This machine structure is complicated. But it is necessary to make SEISO. And when making SEISO activity, a good idea is to convenient a SEISO activity scheduled in 5Ss and Maintenance-SEISO scheduled. Such outer surface is the category of SEISIO in daily 5Ss. It might be difficult to resolve at once. Then it is necessary to make plan to clean up.

How I make the SEISO training to *Gemba*-Managers

When I pointed out such dirty machine and explained to the managers in a conference of a manager training course, there were opposite opinions from *Gemba* managers.

Manager training course consist in 120 hours in 4 months (16 weeks) pulse presentation, One lecture & practice (8-hours) in a week.

Actually, I used these photos (Photo-1 to Photo-6) in my lecture.

And they could understand in the lecture and agreed to my lecture. But soon I understood that their agreement was superficial. When making the practice in production *Gemba* the differences of each managers degree of feeling was revealed.

The opposite opinions were:

- A factory is such thing. A factory is dirty, and it is natural thing.
- Even though the *Gemba* to be dirty and it is abnormality, it is not my duty. Machine to be dirty but is not abnormality because it is working.
- Cost of cleaning by extraordinary worker is expensive.
- To keep production is priority as a *Gemba*.
- So far, no troubles were occurred. There were troubles, but minor troubles.
- Etc.

And again, I confirmed their images of machine abnormality in above photos.

1. **Photo-1.** Oil & lubricant is overflowing: It was agreed to be abnormality, because of safety reason. But they thought there is no means to resolve.
2. **Photo-2.** Many chips in the machine: It was also agreed with the reason of defects occurred.
3. **Photo-3.** Temporary repair: It was agreed with the reason of re-work and reliability.
4. **Photo-4 & 5.** Electric control boxes: It was also agreed because of safety reason.
5. **Photo-6.** Outer surface dirty: It became to be on the point of argument.

Then we focused on this point (P-6), because all doubts against the necessity of SEISO is included in this point.

By the way, I was asked to make this managers course by the president of this medium class company. This relatively new (founded 8 years) had the problem of factory performance. Then at the beginning I suggested to make this 120hours training course to change mind and train managers.

So far, no troubles were occurred. There were troubles, but minor troubles.

This was the mind of managers. On the other hand, this factory had the problems of machine troubles and obviously the "Choko-tei".

Now, the managers discussion and practice. And, each group discussed to understand the troubles of main machines. In this way the methods are:

- One-minute cycle Work Sampling;
- Survey of the maintenance section data. Data of troubles & repair;
- Machine SEISO with maintenance engineer.

Items understood in work sampling and data analysis:

- Many Choko-tei;
- Slow response of maintenance engineer;
- Loss of operator waiting;
- No data recording form, but daily report (troubles and repair of the day).

Items understood in Machine SEISO with maintenance engineer:

- Many abnormalities (I cannot be bothered and omit to list up all);
- Any way some of abnormalities of next list in a machine (What is "The abnormalities"):

What is "The Abnormalities"			
Items		Abnormalities	Detail of abnormalities
1	Small defects	Dirt	Dust, Trash, Powder, Rust, Oil, Paint
		Scar	Crack, Crush, Deformation, Chip, Bend
		Rattle	Shaking, Come out, Title, Decentration, Wear, Distorted, Corrosion
		Looseness	Bolt & Nut, Gauge, Cover, Belt, Chain
		Abnormality	Noise, Heat, Vibration, Smell, Discolouring, Pressure, E-Current
		Adhesion	Clogging, Fixation, Deposition, Peeling, Operation failure
2	Regarding fundamental conditions	Oil & Lubrication	Oil shortage, Oil dirt, Unknown oil spades, inappropriate oil, Leakage
		Oiling	Oil of oil filter port, Clog, Break, Deformation, Pipe crush, Storage condition, Oiling equipment defect
		Oil level gauge	Dirt, Crush, Leakage, Defect of Level indication
		Retightening	Looseness of bolt & nut, Dropout, Hooking defect, Too long, Crush screw, Corrosion, Defective washer, Volt indication, Reverse double nut
3	Difficult Places	Seiso	Machine construction, Cover, Placement, Foothold, Space
		Inspection	Cover, Construction, Placement, Meter position, Direction, Appropriate display
		Oiling	Oiling mouth position, Construction, Height, Foothold, Waste-oil mouth, Space
		Rethigteing	Cover, Construction, Placement, Sice, Handle position, Space
		Operation	Machine placement, Valves, Switch, Handle position, Foothold
		Adjustment	Position of Manometer, Thermometer, Flow Meter, Moisture meter, Vacuum gauge
4	Source of dirt	Products	Leakage, Overflow, Burst Out, Scattering, Spilling
		Material	Leakage, Overflow, Burst Out, Scattering, Spilling
		Oil	Overflow/Bleeding of Lubricant, Hydraulic, Processing, Fuel oil
		Gas	Leak and Scattering of Air, Gas, Steam, pH (Acidity), Exhaust
		Liquid	Overflow, Bleeding of Water, Hot water, Semi-finished product, Cooling water, Drainage, Circulating liquid
		Processing	Burr, Cutting waste, Packaging material, Spatter, Fire flush, Smoke, End material, Adhesive, Paint, Oil, Light, Polishing powder, Defective products
		Others	by Person, by Forklift, intrusion from clearance of building

And when making the maintenance, I asked the engineers to put the red and blue cards. Then the managers could see the condition of the machine.

When making its activity by maintenance engineer, the managers couldn't or hesitated to participate to the activity with dirty by their own hands.

Then I required managers to make record in the paper and photos.

As the result of Maintenance SEISO:

- 13 Red cards including broken mesh of hydraulic and bearings worn out and
- 111 Blue cards which included oil pipe loggings were recorded.

Actually, my training course has a lot of practice. And with through the practices, let them find, consider, realize and summarize the new knowledge.

What was their new knowledge? The discussion theme was the dirt of the machine is abnormality or not? And their conclusions were:

1. Let's call "abnormal". Because...
 - Abnormality must be controlled;
 - To control, something of standard is necessary;
 - But the issue of abnormal or normal is the issue of sense. And;
 - How to feel is an infinit variety by employees;
2. Pika-Pika which Sensei introduced is not the goal, but the result of the activity.

In that way, Pika-Pika is an onomatopoeia and means the degree of shiny which shining like a mirror surface. But actually, even the machine of SUMITOMO, there is no machine which shining like a mirror surface.)

Even outer surface, there are sensors, measurement instruments such delicate parts. Therefore, again even outer surface, SEISO is important, but how?

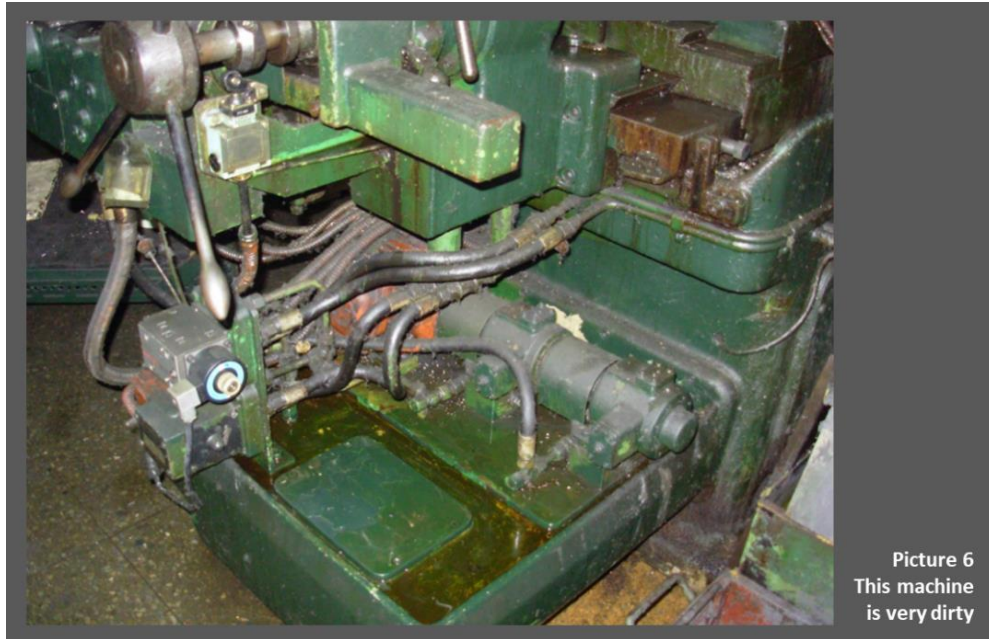
Proper System and investment for it is required: **System, Time for daily 5Ss and Regular Maintenance SEISO which are required to spend investment.**

Above is the conclusion of this part of the course by managers. And in a part of conclusion, I also was noticed:

“Pika-Pika activity is not the goal, but the result of the activity, which tackling seriously in short and limited time by employee”.

There was one unfortunate point, that was the point I expected for. I expected the word of "cultivation of attachment to machine". But there wasn't such opinion.

Is "cultivation of SEISO mind" is only in Japanese culture? And, can we share such sense of value in the world?



Picture 6
This machine
is very dirty

Again, we confirmed that the dirt of the machine, in Photo-6, condition is abnormality.

The standardization (the limit) of normal or abnormal is difficult. One of idea is to provide a visual aid. But how to feel is in infinite variety senses. Then, to build The System is essential.

The System? ...Yes, it is the system of TPM which I have explained and to make visualize in KPIs, education & training & incentive, 5Ss & maintenance SEISO time schedule, regular maintenance & record.



Manager's role.

And, one of essential point is the manager's job role.

Next is a story which I listened from my Japanese friend who is a general manager of a manufacturing company in USA. But before the main theme, please let me an annotation about some differences in employment form.

This company promoted one Supervisor to the **Gemba** manager. Normally USA and European company employees, for instance, **Gemba** manager as a **Gemba** manager from outside. Then **Gemba** supervisor isn't promoted to, for instance, manager normally. And, for instance, when hired as an accountant, he or she doesn't change his position during he works in the company.

The situation in Japan is different. For instance, my case. I was an engineering section manager. And after engineering, I became a production manager in **Gemba**. Or, my friend was a **Gemba** supervisor. And he was promoted from the position of supervisor to the **Gemba** manager. Nowadays there are the cases of hiring **Gemba** manager from outside as **Gemba** manager also in Japan. But still the form of internal promotion or internal changing position is the mainstream in Japan.

We comeback to the main theme... And, He said...

Unfortunately, the manager who was promoted from the supervisor got the sick of "manager disease". So, after the promoting, he got his office and new computer.

Although initially, was good and he made **Gemba** walk sufficiently. Then, gradually the opportunity of meeting was increased. And, he becomes to a Computer keeper without **Gemba** walking.

And I'm worried about how to educate him. So then, I gave a book which is described the maxim of Toyota in which there is one of Toyoda. In fact, there are many words which occurred from **Gemba**. For instance, Just In Time, Jidou-ka, Mieru-ka, Choko-tei etc.

- Mieru-ka; Make visible.
- Choko-tei; Machine frequent stop with minor trouble.

And there is a word of Kiichiro Toyoda who is a founder of Toyota. And he said:

*"Go to **Gemba** and wash your hands 10 times"*

Kiichiro Toyoda

The meaning of this sentence is: Go to **Gemba**, touch the machines of **Gemba**, get dirty in **Gemba** and wash hands 10 times in a day.

Actually, this word was for white colour employees who graduated University. These white colour employees don't want to go to **Gemba**. And the Kiichiro's habitual saying was that the person who doesn't know **Gemba** is worthless.

Wai-Gaya

There is a culture of Wai-Gaya. So, Wai Wai Gaya Gaya, is a Japanese onomatopoeia and it shows a noisy situation in talking in HONDA.

Wai-Gaya is one of meeting method.

For example, directors of HONDA have the shared floor space which there is no separation or room to separate them. Actually, there is no office, but share space.

When a director is necessary to consider something and, he needs to make a discussion, he visits to the desk of another director and he discusses. And, if he wishes to discuss plural directors, he can easily call other directors on the round table. It is indeed very freely, easily and it is made often.

Meeting is important. But such JIT & frequent, easy meeting is very effective to make decision.

This Wai-Gaya is of course made in **Gemba** by managers. If necessary, calling other managers and discussing and deciding very quickly but deeply in front of the **Gemba** problem.

Is **Gemba** noisy and not possible to concentrate to make discussion? Or, it is necessary a quiet meeting room to discuss?

There are both advantages and disadvantages. However, to discuss one of essential thing is to look at **Gemba**, Gembutsu and Genjitsu.

The computer keeper manager also initially made **Gemba** walk, but gradually reduced it because of increasing meetings.

Are there meetings which to be necessary to make in the condition of quiet and calm? Yes, there are. Management meeting, Monthly Quality meeting and Production meeting. These monthly meetings are better to make in quiet and calm meeting room. Anyway, such meeting which calling managers in meeting room is never many. Other necessary meetings should be made in **Gemba** which includes the visiting of another managers desk.

Again, meeting should be standardized which meeting room to be used and Wai-Gaya which meeting room no to be necessary and JIT & frequent and frequently. So, leave yourself from the desk and from the computer.

For leaving from the desk and the computer, another one of effort is necessary. It is to reduce deskwork.

In my previous company, there was (and there is) a standard to evaluate manager. And one of item is delegation of authority. For instance; When I was a production manager, I had engineering section. The engineering section manager made a delegation of authority.

The step of delegation of authority to a subordinate is

1. List up the items of deskwork as the section manager.
2. Choose the subject to be possible to delegate.
3. Choose the person as subordinate.
4. Educate the subordinate and discuss.
 - a. Necessity of the item. So, why this item is necessary in the section?
 - b. Control method: Graphs, regular report, standing meeting, inspection.
5. And timely interview.

For instance, this section manager made a delegation of authority one item to a female engineer. The delegation item was the control of office supply and authority of settlement less than 100USD.

Then, the Education was the trend of office supply and expenses by yearly budget. And, the Control Method was a control graph. She made a control graph which shows past trend, current accumulated result, yearly budget and target maximum expenses.

The section manager made such delegation of authority including settlement of expenses and could create free time to go to **Gemba** which includes visiting subordinate's working desks, other manages desk and production **Gemba**.

Why I'm writing such meeting issue and authority delegation? ... Please, make **Gemba** walk.

The middle manager who shut himself in his office and is a computer keeper is incompetent, as Kiichiro Toyoda said.

- **Go to Gemba** and sharpen the sensitivity of factory management.
- **Go to Gemba** and feel normality and abnormality in 6senses: 5 senses plus intuition.
- **Go to Gemba** and talk with **Gemba** people, touch the machines, the products and grasp the factory situation.
- **Go to Gemba** and if there is an abnormality, discuss with proper persons in front of the abnormality immediately.

This is the way of Factory control.

Why I'm writing such managers **Gemba** walk? ...There are many abnormalities in **Gemba**, because **Gemba** is alive.

Gemba people feels the abnormalities. But unfortunately, most of the case, **Gemba** people don't correct these, because such abnormalities don't affect to their interests. Therefore, it is important to share the sense of value with employees.

Manager needs to educate and train **Gemba** people with through OJT (On the Job Training). And, manager is required to be sensitive to normality and abnormality.

Normality & Abnormality should be made visualize. Therefore, 5Ss, graphs, Andon etc. are important.

For machine abnormality, manager needs to touch and feel temperature and vibration, listen noise, look at the machine condition.

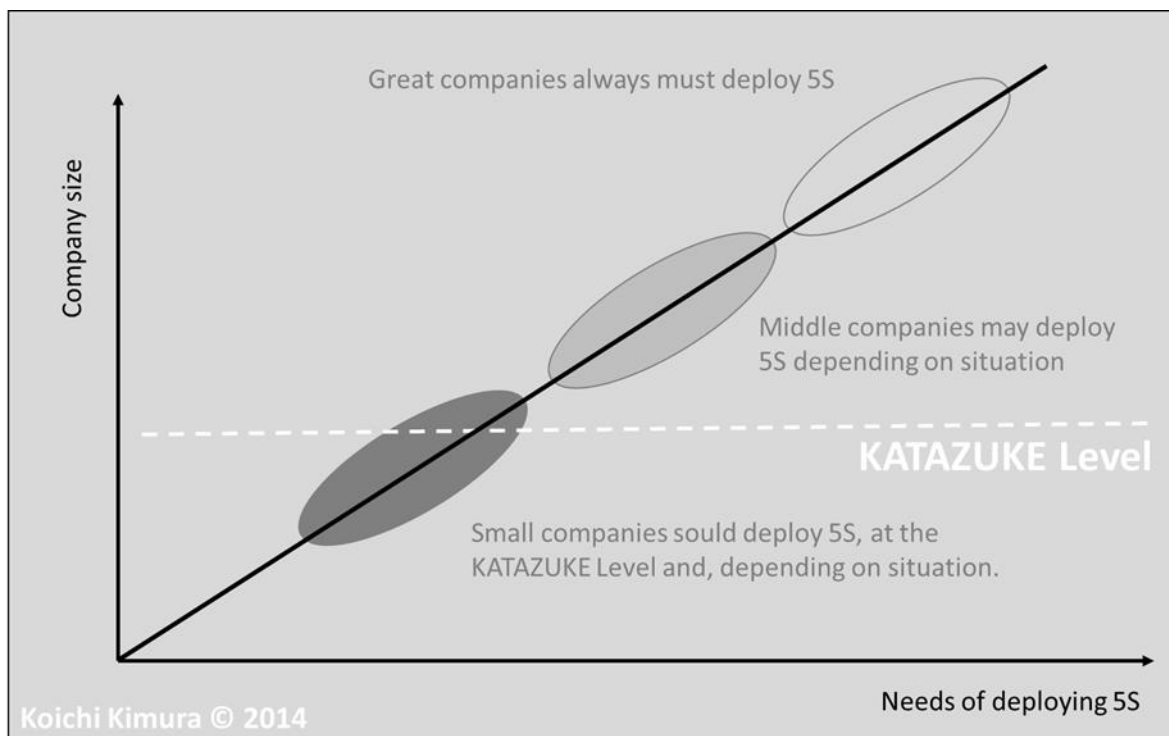
Gemba people never tell a lie and tell the truth. However, it doesn't mean that **Gemba** people tells all truth. Therefore, manager needs to make **Gemba** walk and to have sensitivity.



The Level of 5S in TPM

By the way, I emphasized the importance of 5Ss for TPM. But is it true? Is 5Ss important for, for instance, TPM?

Do you remember next picture which I wrote in "5Ss"?



And, I said that large company and a certain degree of scale company need to implement 5Ss activity for the management. However small-scale factory doesn't need to dare it. Because 5Ss is a control tool. Then if it is possible to control factory, it is no necessary to dare it. But it is necessary to make KATAZUKE, for instance, because of temporary placing.



Picture 7
Katazuke Level

Above Photo-7 is of a Japanese small-town factory which has 18 employees.

Good 5Ss? ...No, it is not, and this factory doesn't apply 5Ss, but does good Katazuke. The photo is the press machine process which is well maintained.

Such small factory is no required 5Ss control, but Katazuke is required. And, I confirmed that machine SEISO was well doing.

Please look at below Photo-8

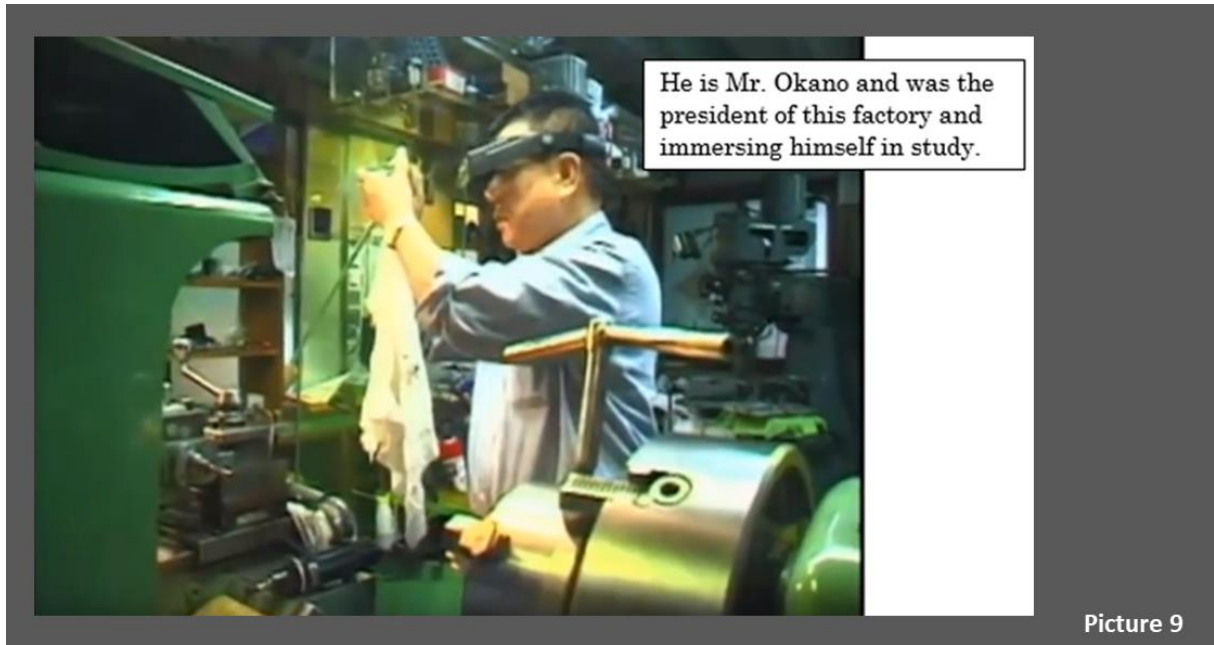


Picture 8 - Neither Katazuke nor 5S Level

This also small-town factory, but only 6 workers including the owner.

Neither 5Ss and, of course, nor Katazuke? ...Very bad condition. However, this factory survives.

Why such factory can survive? ...Let's look at next Photo-9.



His town factory Takano Kougyou¹ is only 6 employees including himself is very famous in the world, because of his products and the metal processing technique which is deep drawing.

The below photo shows the process of metal drawing. From left to right, 7 processes and complete the drawing. Below, this Okano Kougyou and how the factory situation was.



¹ I need to tell very unfortunate news. Takano Kougyoy went out of business recently. A small-town factory of 6 employees went out of business at this year 2018 when its foundation was 1972. The president Mr. Takano decided to go out business, because of his age of 85 years old and no successor.

Okano Kougyou has special technique of metal drawing. And his products are Lithium battery case of smartphone, Toyota Prius or injection needle which the diameter 0.2mm and inner diameter 0.08mm and so called no pain needle.

This company sold 600million USD/year by only 6 workers. But unfortunately, he went out of business.

In fact, in Japan 30 Thousand small company go out of business in a year (2016). And 50% were profitable. But they went out, because of the problem of no successor.

Seriously, there was no 5Ss. Indeed, there is no Katazuke. But he could be a famous factory in the world.

So, again 5Ss and Katazuke are important? ...Yes these are.

But if you want to success as a factory without 5Ss and Katazuke, you need to keep next condition.

- One is to have special and prominent technique & skill. And;
- Another one is not to intend large scale company.

An interviewer questioned to Mr. Okano why not increase the number of employees and sales. And his answer was: "If increase employee more, it might not be possible to keep the precision of products."

I introduced Japanese town factories which don't implement 5Ss and even Katazuke. But one of common term is the condition of machine and tool. They never forget the maintenance of machine & tool. And they say with one voice that;

Machine & tool is my soul; therefore, I care these.

It is similar to Samurai culture that;

Sword is the soul of Samurai; therefore, he never neglects the care of it.

Now problem of more than medium scale factory. So, when increasing employees, why they cannot keep or becomes of little sense of care of machine & tool which use these.

In another words, is it so difficult to cultivate the share the sense of value? ...Yes, it becomes difficult when the factory becoming large scale and increasing employees.

Therefore 5Ss & Katazuke activity should be used as one of measures.

I always tell clients that it is easy to transfer the technique even TPS. However. Most difficult thing is to cultivate the condition of your company which can keep it.

Now, we come back to the main theme: Maintenance SEISO.

*“The range of **Jishu-Hozen** is up to: Operator is the person who uses machine properly and participates the activity of maintenance and, the maintenance engineer is the person who maintains and educate & transfer the technique & job to operators”.*

Koichi Kimura

III. Maintenance SEISO

The purpose of Maintenance (Inspection) SEISO is to find abnormalities. And, it is necessary to list up the items which at first glance, it seems not to be related to the occurrence of breakdowns and failures, not only little dirt, scratches and rattle, inclination etc. and other static defects, but also trying to move and listen to vibrations and sounds and seeing the "movement" itself.

The checking points are, as I have introduced, next table is useful.

What is "The Abnormalities"			
Items		Abnormalities	Detail of abnormalities
1	Small defects	Dirt	Dust, Trash, Powder, Rust, Oil, Paint
		Scar	Crack, Crush, Deformation, Chip, Bend
		Rattle	Shaking, Come out, Title, Decentration, Wear, Distorted, Corrosion
		Looseness	Bolt & Nut, Gauge, Cover, Belt, Chain
		Abnormality	Noise, Heat, Vibration, Smell, Discolouring, Pressure, E-Current
		Adhesion	Clogging, Fixation, Deposition, Peeling, Operation failure
2	Regarding fundamental conditions	Oil & Lubrication	Oil shortage, Oil dirt, Unknown oil spades, inappropriate oil, Leakage
		Oiling	Oil of oil filter port, Clog, Break, Deformation, Pipe crush, Storage condition, Oiling equipment defect
		Oil level gauge	Dirt, Crush, Leakage, Defect of Level indication
		Retightening	Looseness of bolt & nut, Dropout, Hooking defect, Too long, Crush screw, Corrosion, Defective washer, Volt indication, Reverse double nut
3	Difficult Places	<i>Seiso</i>	Machine construction, Cover, Placement, Foothold, Space
		Inspection	Cover, Construction, Placement, Meter position, Direction, Appropriate display
		Oiling	Oiling mouth position, Construction, Height, Foothold, Waste-oil mouth, Space
		Rethigteing	Cover, Construction, Placement, Sice, Handle position, Space
		Operation	Machine placement, Valves, Switch, Handle position, Foothold
		Adjustment	Position of Manometer, Thermometer, Flow Meter, Moisture meter, Vacuum gauge
4	Source of dirt	Products	Leakage, Overflow, Burst Out, Scattering, Spilling
		Material	Leakage, Overflow, Burst Out, Scattering, Spilling
		Oil	Overflow/Bleeding of Lubricant, Hydraulic, Processing, Fuel oil
		Gas	Leak and Scattering of Air, Gas, Steam, pH (Acidity), Exhaust
		Liquid	Overflow, Bleeding of Water, Hot water, Semi-finished product, Cooling water, Drainage, Circulating liquid
		Processing	Burr, Cutting waste, Packaging material, Spatter, Fire flush, Smoke, End material, Adhesive, Paint, Oil, Light, Polishing powder, Defective products
		Others	by Person, by Forklift, intrusion from clearance of building

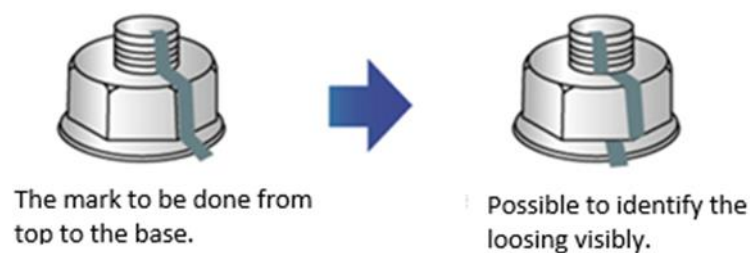
Attitude of Inspection SEISO

It is very simple and is to use your 5 senses (and possibly use 6th sense). It is: "To see with eyes, to listen with your year, smell with your nose and touch the machine and to search the abnormalities with your 5 senses plus intuition".

When making SEISO the machine should be stopped. Therefore, it is necessary to do stop SEISO and after test run.

By the way there is one of difficulty, that it is bolt & nut.

Do you remember below picture? I used and explained this in TPM-4.



The above example is drawn exaggerated for explain the method.

In a machine, various kinds and many bolts & nuts are used. And to explain the method which is made visualized the looseness of bolt & nut I introduced above picture. Then it is recommendable to make such mark to identify the looseness.

When making SEISO, of course it is necessary to check the looseness in the mark, but it is necessary to pay attention never to erase the mark. Re-tighten all bolts & nuts? It takes time and effort.

And it is recommendable to standardize how to make mark (for instance) in a flat screw and in which part (drive part).

Again, humans 5 senses are most excellent sensors.

In thorough SEISO, the cleaning up of adhered dirt, in touching every nook and corner, it becomes to identify the defects of the machine.

Then the attachment to the machine and interest come to the mind of the person.

Then, he tries to touch and open the part where he hasn't opened and makes SEISO to fined abnormalities.

Now, The attitude of Inspection SEISO:

1. Operator himself needs to dirt his hands and make SEISO.
Even though it lacks the manpower, it must be never to consign SEISO to, for instance, outsourcing and must make SEISO by operators themselves.
2. Cleaning up all many years of dirt.
3. Tray to open rids and cover which haven't been checked and to clean up thoroughly.
4. Make SEISO not only the body, but also incidental equipment such transport equipment, measuring instrument, electrical equipment, inside of oil tank.

5. Not give up just because of soon getting dirty and to investigate from where, how getting dirt in time and why getting dirt.
This investigation is used for the countermeasure of prevention of scattering dirt. So, I will describe this theme next.

I recommend making Inspection SEISO with combining operator education and **AKAFUDA** (Red card) tactics and regular maintenance by the maintenance engineer.

The important thing is to let them touch machine for not only cultivation of attachment (love), but also sharpening sensitivity.

By the way, I described the importance of to cultivate operators, particularly skills as working skill and maintenance skill.

As I have described that within this 1 decade, production system will change dramatically because of AI and Robot. However even though AI & Robot is been improved and introduced in **Gemba**, the bringing up of people is essential for production **Gemba**.

Cultivation of people

For a while, I leave from the theme of SEISO and describe the cultivation of people.

In fact, AI is been improving. And, as I have written an equipment which can identify the abnormal noise with AI has been developed and started to sale. This equipment is very useful to use in TPM.

In Japan there is a big problem which is the mass retirement of old skilled technicians because of the retirement age. Additionally, Japan has the problem of declining working population. Therefore, as one of countermeasure, the use and development of AI & Robot are targeted. But on the other hand, cultivation of people must be aimed.

It is the urgent matter to transfer such skilled technique to next generation.



Oyaji-san of TOYOTA

Now, I would introduce one story about TOYOTA.

In TOYOTA, there is a person who **Gemba** people call him Oyaji-san (father) in a friendly manner. But he Mr. Kawai is vice-president of Toyota at his 70 years old in 2018.

He joined Toyota after graduated middle school and Toyota skill training school at 1965. And, at 2015 he was appointed vice president.

Next are the word of him:



Firstly "No matter how the machine goes, people are the property"

Mr. Kawai

As you know that TOYOTA is so eager about "human resource development" as to make technical school. But, why is he eager about human resource development?

About ten years ago (2008), Mr. Kawai had been worried about the future of manufacturing and had questioned to a factory executive.

"Who is the guru who thinks that no matter what problem happens in this painting process, fixes it, and thinks to make better things?"

Then, the name raised as the top is 63 years old. He continued with the age of sixty and the latter half of fifty. The second technical level is "80% to top". These top classes are retiring.

Then 80%, 80%, etc. when the level continues to fall, it will become only "just people" in ten years he felt a strong sense of crisis.

"We have to develop skill workers who can understand fundamental principles and can make things as soon as possible."

Afterwards Mr. Kawai did not dare to use the robot and gradually increased the process of making by hand.

Toyota has been improving its performance by incorporating wisdom and skills of skilled workers into machines. And to stop the deterioration of the skill that is the source, he dared to provide the process of making by hand.

He said:

"When a poor skill person teaches the robot the letters written, it becomes a bad writing, but improves if taught by a good skill person. In other words, if developing a person who can write better character, robots that transplant human skill will also evolve. From five years ago (about 2013), we also gathered excellences mid-thirties workers from each factory and began to [training of highly skilled people] to train thoroughly".



"Secondly, don't rely sensor, but sharpen your own sensor".

Mr. Kawai

Now many digital measuring instruments are introduced in **Gemba**.

If it is dimension, it is possible to measure easily, precisely and simply by setting the object in the measuring instrument, and if it is temperature, it automatically shows if attaching a digital thermometer in advance to the machine.

However, Mr. Kawai says that there is no development if you trust the numbers as they are. It is important to be able to judge whether the numbers are correct or not by your own eyes.

When a person starts using the machine without manual experience, he assumes that the answer given by the machine is "correct".

Advanced machines are hard to break, and quality has improved. To that extent, the opportunity of facing tough challenges to be required the challenge with trial and error decreases.

The state-of-the-art machine is like a black box. Older generations who have mastered manual manufacturing can intuit the point where the problem occurred, even if defective products come

out, but young generations will be handled by specialized professional manufacturers. It is very scary to entrust everything to the machine.

The accident which defective products are continued to produce because of the sensor error is occurring.

"Human's" five senses "is truly amazing. Even paint is getting more and more difficult to distinguish colours (subtly different in texture), that's why trying to see it even at instruments, but it is not possible to see as much as a human.

I do a test to distinguish a colour by a technician and give a title of Meister to a highly skilled person. And that person finally checks products."

"If do not do it, it doesn't be able to make" good quality things ". If checked only on the machine, it will be accepted if it is within the predetermined colour range. But, if with a higher level of naked eyes, "This is not acceptable. Make the width of the instrument (pass) narrower. Do it make better. "

"Skill" is the ability to quickly see it even if the instrument is broken. It's about the ability to make better. "

In the assembly process, impact torque wrench is used. A chief notices abnormality immediately when walking in the aisle and hears the noise of the wrench.

An impact torque wrench has the torque sensor and it is possible to detect whether the appropriate force is applied when tightening.

Even though the detection result of the sensor is OK, if the screw is only slightly inclined or stuck, the quality drops.

The chief can understand abnormality by sound. When entering the bolt, it got into the beginning and gradually became heavier, just as it toggled three times, "click, click, click" and after this sound it was completely closed. There is a rhythm. So just find it all by walking. That's sensibility.

- "Click"; imitative sound. Japanese imitative sound is Kachi, kachi, kachi.

The sound of latch of torque wrench doesn't sound "click, click, click, but kachi, kachi, kachi.

We are also doing a skill exchange meeting or an internal contest competing for polished skills.

For example, in forging process, heat it with a banner to make steel. Everyone is required to do the basis of everything. If painting, factory which has paint process, from Motomachi, Tsutsumi, Takaoka. We will hold qualifying sessions with people from each factory. And send excellent people to companywide meetings. So, decide the best award.

I introduced the word of Mr. Kawai. I wish to get your good understanding about that please never neglect basic education & training even though sensor and clever machine is improved.

*"If no 5Ss, there is no foundation of 'All people's participation',
if no "All people's participation", there is no mind of 'Attachment to the machine'.
And finally, if no 'Attachment to the machine', there is no **Jishu-Hozen**".*

Koichi Kimura

IV. 5Ss

5Ss is can be a fundamental condition in **Gemba** to cultivate the flexible mind.

From this point I would describe 5Ss and again a little leave from the theme of SEISO in **Jishu-Hozen**.

In the last description, I wrote 5Ss based on the 2 persons questions.

One is the e-mail from my old friend who expressed the difficulties of 5Ss stability. Another one is from a University student.

About my old friend... I wrote the importance of SEISO in the historical and cultural background of 3Ss.

A tale about 5S

In the description I mentioned, I written the story of my old friend. And, in the story, there is a future story. But, after the problem of old friend, I told a story of my experience as next:

I received a request from a company. This company (he) has done 5Ss introduction before. However, the problem of this company is that soon many objects are accumulated in the process and warehouse.

Why objects are accumulated, even though introduced 5Ss? ...Because he misunderstood 5Ss to be KATAZUKE.



5Ss and Katazuke are different.

KATAZUKE is "act" and, 5Ss is the system of maintain the act.

Katazuke is "To Make KATAZUKE" (Tidy up):

1. Distinguish objects of necessary or unnecessary.
2. Decide location for necessary objects.
3. Put the necessary objects in the decided location.
4. And SEISO.

5Ss is:

1. SEIRI; Decide a standard to distinguish necessary or unnecessary.
2. SEITON; Put the necessary objects in decided location in decided timing & quantity in decide location in the condition of visual control.
3. SEISO; SEISO in standardized timing and level.
4. SEIKETSU; Kaizen activity to keep 3Ss.
5. SHITSUKE; Bringing up of people.

He learned 5Ss as KATAZUKE activity. KATAZUKE is an act and is essential.

He is not big but a smaller than medium class (about 90 employees). But the production **Gemba** is flooded with materials and work-in progresses. And the warehouse also is flooded with raw materials, products, work-in-progresses and others (fixtures etc.).

Why? And, why it is so difficult to implement 5Ss? ...

Unfortunately, he had 3 problems in factory management.

- 1) The sense of necessary quantity or unnecessary wasn't shared by **Gemba** people.
The lack of the meaning of Seiri.
- 2) Lack of visibility, particularly in warehouse.
- 3) The behaviour of "temporary put" to be overrun with.



For instance, the above photos 12 and 13.

These are raw material and work-in-progresses. But why there are in the aisle side. Actually, these are "temporary put". In fact, his factory also the objects of temporary put are overrun.

After the overall factory tour, I attended the regular KATAZUKE activity in warehouse.

The warehouse was in confusion. The space of receiving & inspection was crowded with receiving raw materials and parts and, also, objects which couldn't be stored or difficult to store or temporary put. The pass between the racks were narrow because of some temporary objects used the space available.

He needed to make such special Katazuke once a half year. As the result I saw many abnormalities:

1. **Obsolescence:** After remove the pallet, dust accumulated on the space.
There was also a place where the colour of the floor obviously differed from others, and it was obvious at a time that it was kept there for years and never moved.
2. **Duplicate materials:** The materials have the number and were in the rack.
But on the back floor, there were same materials.
3. **New tools:** New tools which haven't used were found in the rack.
Probably according to the request of **Gemba** the new tools box was bought.

Even so, why so many objects were accumulated? ...He made Katazuke but hadn't the system of maintaining the condition. Therefore, although it was clean once, the

temporary put was overrun and new receiving which hadn't the standard to deal with, and therefore temporary put to be made carelessly and old stock was pushed to back.

But why he couldn't keep the condition of tidy up? ...We made a Kaizen team with members of material handlers, production associates (line workers), engineer and production controller.

In reality, I discussed with the president the managers to attend this Katazuke event.

And, I said him that the managers participation is not compulsion, but free participation.

Then the Katazuke event was implement. And I was watching the managers attitude.

The participated managers were the president, material dep. manager, accountant manager and production planning manager. On the other hand, the managers who didn't attend were design engineering, human resources and other indirect section managers and factory manager.

Some managers were just watching in folding their arms and talking with. Some managers participated in the Katazuke work positively.

After the Katazuke, as the final event we took photos to compare before and after. Particularly the mountain of obsolete materials, parts & products and excess inventory caught our eyes.

Why? Why so many obsolete and excess materials? ...We took photos in front of the mountain. And in the photos, there were the material department and planning managers with the face of sour expression.

The root causes were many. There were the problems of production planning, production process capability, design engineering issue etc.

But at that time, I suggested to concentrate into just **Gemba** issue.

Because the **Gemba** sensor which identify the abnormality with in visual control could not work properly

Because the **Gemba** didn't identify the duplicate and triple locations for same materials

Because the **Gemba** didn't sense the existences of obsolete materials and products which were covered with dust.

I always teach that don't believe computer, you check with your eyes and your senses.

We (Me and the Katazuke team) made a discussion with KJ method in the theme of Katazuke situation. And, they recognized that the main root cause was "Temporary put".

Why temporary put occurs? ...And next is the conclusion of opinion.

1. **Busy:** The person in charge of material handler also knew the FiFo (First in First out) and old stock to be in front. But the person in charge makes temporary put in front carelessly and thinks that leaving it here for the time being and let's fix it later. However, in reality, the act of "let's fix later" is little to be done. In repeating such behaviour, the Katazuke condition collapses and half or One year later, it is thought that it is necessary to make regular Katazuke. However, in reality, it is rare that "to fix it at a later time later" will be put into practice.

2. **Production schedule change:** There were many complaining that quite often there are schedule change. And the production **Gemba** is required to stop and the production in progress and changed to the next production.
Then the work-in- progress and the materials are put in the aisle side.
3. **Over making:** Over making against the order. But materials are remaining. And **Gemba** thinks to be wasteful. Then it is continued to produce up to finish the material. Then the products to be unsold are stored in the warehouse as temporary put.
4. **Defect and waiting repair:** There is a designated place for defective products as natural. The rule is to repair or deal with during the day. However quite often its rule isn't kept and accumulated, because of the number. Then a lot of defective products which are waiting the deal. Then the temporary put is normalized.
5. **Too far:** the location of warehouse and **Gemba** have a distance. Then carelessly a person in charge does temporary put.
6. Difficult to search the location in rack: It is difficult to search the location because of bad visibility.
7. **FiFo rule to be not kept:** A person in charge doesn't keep the rule. Then it takes extra time and effort to move things in front and to take out necessary things and to reload them again, but it is troublesome. That's why the old stocks in the back will be left in place.

Approximately, the consolidation of the ideas were as above 7 categories.

Now, how they did.

There was no progress if there is no action even though collecting and consolidating cards. And, their action taken was:

- 1) Anyway, let's continue to make "SEISO" with the eyes of above.
- 2) Temporary put by material handlers to be prohibited.
 - a. Temporary put calls another temporary put.
 - b. To adopt it, a new material handler was added, but temporally.
- 3) Eliminate and prohibition of the Muda of overproduction.

And the team member suggested to the top management that to continue daily SEISO in warehouse. The warehouse is wide. And making daily SEISO in a schedule in dividing area by the team members. Therefore, the team was held one year with a time limit. In parallel 5Ss was reintroduced.

In reality, when making discussion to conclude above action, I suggested to do SEISO activity and I told the next issues:

- SEISO is included in Katazuke. Before SEISO, Katazuke is essential.
- SEISO which doesn't involve Katazuke cannot have the meaning.

Then they decided to continue SEISO activity which has deeper meaning than just Katazuke.

And I spoke a magical word which is the teaching of Zen to them.

"SEISO trains the mind and sensibility."

Based on their suggestion and activity, I suggested to the president to expand the daily SEISO activity, which is not 5Ss activity, but just only SEISO, in companywide in the condition of again the participation to be free.

Backing to story I would talk about the funny reaction of the president...

—Daily SEISO by ourselves! Also, companywide? —said the President—. We hire the sweeping workers. And they keep clean aisle side, working place, offices, toilet and other spaces. Is it insufficient, isn't it?

—I don't make comment about current SEISO activity which you use the outsourcing. But my suggestion is to make discussion with all top management and managers. And, again, the participation or not is free — I commented and continue...

—The discussion point is "Participation to daily SEISO which should be done by managers their self". As you looked at and felt, your company has disease. At that time, I don't make my comment about this point also. But as you feel, you company has a disease.

—And Sensei, in implementation of SEISO by ourselves, can we resolve this disease? I expect you to help us to introduce something of new systems. But only SEISO? I don't believe, and I cannot understand —questioned the President.

—Anyway, please discuss with your managements —I answered.

I write the result of this practice & experiment later.

In any case, the tactics of the abnormality of temporary put was succeeded. And, I told this story to my old friend. So, I believe these might be understandable for you and these are still in the range of **Gemba** management.

Not understandable? Why SEISO? ...Again, I write about last issue a little later, but firstly I would talk about the question of a University student. In that way, her questions were...

- *Why Japanese management is enthusiastic about 5Ss?*
- *Why USA and European management are not?*
- *What is the purpose of 5Ss as a management?*
- *What is the influence on management?*
- *What is the effect to corporate management?*
- *What is the relation 5Ss and "Strategy as Practice" SaP?*

I already described the first and the second questions in the last description in combining Maintenance SEISO in the Japanese cases².

² TPM-5. Chapter 2, 5Ss, Point 1: Stories of 5S. Point 2: 3Ss (SEISO, Seiri and Seiton). Point 3: "Muda-Zero activity" & "Muda-Zero week". Point 4: Managerial effect by 3Ss

*For a good understanding (of 5Ss about SEISO in **Jishu-Hozen**) , let's look at next 5 items.*

- 1) 3Ss;
- 2) Muda Zero activity;
- 3) Managerial effect by 3Ss;
- 4) Sound practice to corporate management;
- 5) Right brain management and "Left brain" management.

The points 4) and 5) are not related to the main theme SEISO of **Jishu-Hozen** directly. Therefore, I will describe these in next chapter. But, in this chapter I just describe the first three ones: 1) 3Ss, 2) Muda zero activity and 3) Managerial efficiency.

Then, in this description I would write the answer which the University student (she) questioned me in 4) *Sound practice to corporate management* and 5) *Right brain management and Left-brain management* (related to the second question about “*influence on management*”).

Let's take a look at the Japanese companies who value SEISO based on the latest research on business administration from the 2 perspectives of strategy creation and problem solving.

(4) Sound practice to corporate management.

Sound practice influences strategy creation? ...Her thought is that 5Ss (and Visual management) gives the influence on the decision making and strategy making of top management.

And she wishes to find the evidence how 5Ss affects to decision making and strategy making.

Strategy as Practice (SaP)? ...It is interesting. And, I learned and found some thesis. But I tell you firstly that still I don't understand this concept.

I'm now (2018) 75 years old and have many experiences of relationship with industrial companies worldwide. However, still I cannot say that that theory is correct.

Only, I can say the importance of "Mind Flexibility and organizational flexibility".

Anyway and, in order to respond to this university student, I describe my experiences.

Regarding strategy creation, from around 2000, a new approach to business management called "Strategy as Practice" (hereinafter referred to as "SaP") is presented mainly by European researchers.

And she mailed me a document which refers 5Ss to be a good practice for strategy making. Unfortunately, there is no information by whom it was written. Anyway, there is the word of 5S.

Next is the description which she mailed me appears as next:

SaP

The purpose of this study is to show the academic contributions, issues and possibilities of Strategy as Practice.

As academic contributions, Strategy as Practice is an approach for being able expectations of the integration of the content research and the process research of strategy theories and, being able expectations of the integration of the macro research and micro research of management theories. Moreover, it will be elucidated that Strategy as Practice is the internally-oriented and is the dynamic view on the comparison with existing strategy theories. Meanwhile, the issue of Strategy as Practice will be raised by going back to the practice theory which is assumed to be a basic theory on Strategy as Practice. Furthermore, we will discuss that re-examining the assumption of current Strategy as Practice is required for the Strategy as Practice progress.

In particular, Strategy as Practice needs to be analysed in social practices rather than individuals and, needs to be analysed in activities and interactions led from social practices rather than individual purposive and deliberate activities.

On the basis of Japanese firms, this study also suggests that there is a possibility that Strategy as Practice will be evolved. In particular, Strategy as Practice will make progress if attention is paid to so call '5S' such as the cleaning, which Japanese firms have been taking over. 5S in particular, the cleaning, is not a necessarily goal-oriented practice as required by practice theory but is a social practice.

In short, SaP is possible to outline as next 4 points. Then I probably could understand the outline of it as follow:

- a) Traditionally, Strategy was captured as an act of governance and organizational activity. In other words, Strategy is to be developed by only a few top management or strategists. However, in SaP, it is been seeking the solutions to the work of people (who not directly related to making Strategy) rather than the above top management or strategist.
- b) The strategy formulated by some top management is also affected by the stakeholders thought, environment, community, social environment.
- c) Even formulated Strategy, it will be changed in the production environment, the external environment (regardless of the intention of the top management).
- d) Strategy is influenced by the **Gemba** and the external environment and is changed, leading to a well-balanced and good direction.



Strategy & "Practice" meanings:

The meaning of "Practice" is, as a noun, as Habitual or customary performance; operation: Habit; custom: Repeated performance or systematic exercise for the purpose of acquiring skill or proficiency.

And, in order to advance in this story, it is required to know what Strategy is. So, what is Strategy?

Strategy (from Greek στρατηγία stratēgia, "art of troop leader; office of general, command, generalship") is a high-level plan to achieve one or more goals under conditions of uncertainty. In the sense of the "art of the general", which included several subsets of skills including "tactics", siegecraft, logistics etc...

Strategy is important because the resources available to achieve these goals are usually limited. Strategy generally involves setting goals, determining actions to achieve the goals, and mobilizing resources to execute the actions.

A strategy describes how the ends (goals) will be achieved by the means (resources). Strategy can be intended or can emerge as a pattern of activity as the organization adapts to its environment or competes. It involves activities such as strategic planning and strategic thinking.

Henry Mintzberg from McGill University defined strategy as a pattern in a stream of decisions to contrast with a view of strategy as planning while Henrik von Scheel defines the essence of strategy as the activities to deliver a unique mix of value – choosing to perform activities differently or to perform different activities than rivals. While Max McKeown (2011) argues that "strategy is about shaping the future" and is the human attempt to get to "desirable ends with available means". Dr. Vladimir Kvint defines strategy as "a system of finding, formulating, and developing a doctrine that will ensure long-term success if followed faithfully. "Complexity theorists define strategy as the unfolding of the internal and external

aspects of the organization that results in actions in a socio-economic context.

Wikipedia³

In here, firstly I respond to her question.... Indeed, the process of strategy making in Japan and USA is a little bit different.

In above a) to d) there is a sentence of "Strategy is to be developed by only a few top management or strategists".

But in Japan it is not possible to say that a strategy is made by only few top management and/or professional strategist. In Japan, there are many cases which strategies are formed by middle managers and good practices of **Gemba** rather than clear top-down strategy decisions.

For instance, a Policy decision. Strategy and Policy are different. But policy also is a high-level decision making.

As I have written in Factory management-3 (Policy Statement), a policy isn't made by just top management and/or few strategists but is made by middle managers and influences of **Gemba**.

Therefore, it is possible to say that internal sound practice influences on corporate management. However still it is not clear the relation of 5Ss and SaP.

Let's look at more ...Example of "Sound practice", just the Japanese case.



Social good practice.

A good example is a greeting. There are many kinds of actions of greeting in the world. The Japanese bows but shake hands in the West. In addition, kiss cheeks in Latin America. Every country has his laws and local rules. Japanese society also is very severing to keep the local rules.

For instance, household gavages are required to separate in recycle gavages (PET bottle, paper, magazine, cardboard, glass bottle, aluminium can, steel can, battery etc.) and disposal gavages. And the recycle gavages are brought and gathered in a decided public place at once a month.

The disposal gavages are also separated. And individual separated gavages are required to dispose at decided date in a week.

In japan there is no bottle post. And it is required to separate in very detail. Anyway troublesome. However, everyone keeps rule.

We usually do not care much, but if we do not do the same greeting or same manner, it might not be established as a community.

³ Strategy in Wikipedia: <https://en.wikipedia.org/wiki/Strategy>

As you know Japan has natural disasters such earth quake, volcanic eruption, wind and flood damage every year. Then relatively the volunteer activity is active. Also, regional volunteer SEISO is active. These also the social good practices.

But still the question or doubt remains.

Above example are good practice. But just because to be good practices, is there the influences to make decision or strategies?

Let's look at a little more...



Social and company mixed.

I have written SEISO activity by company employees. Regularly they make SEISO activity mainly around the company so called 5S activity. The purpose is to cultivate the mind and situation of the sense of unity with the society with through the volunteer activity. The SUMITOMO case, top management (directors) also attend to this activity.

And I can imagine that such good practice gives influences on their decision making.

Is it true? ...Still I doubt it.



Company internal activity.

In corporate, it is required to wear same working uniform. Before starting work, all employees are encouraged to do Radio gymnastics. Morning meeting, shift meeting, singing company song, Call up business creeds.

And, it is possible to say that Japan is unique. But, such practices are supporting the sense of unity beyond what we think. It is the idea that such accumulation of good practices may influence the creation of strategy.

The thinking of SaP say that above good practices might give the influences.

I honestly say that still I'm not clear. but I can imagine that such good practices contribute to cultivate the share of sense of value, unity with society and also cultivation of flexible mind.



Top down and bottom up.

In Japanese company there are both. But even making top down, the decision of top management is influenced by social & internal good practices and, also, environment including situation.

5Ss? ...Again, in Japanese case. As I wrote before, 3Ss is a Japanese culture. But just because, it is not possible to say that 5Ss influences to a strategy making with only it but can be a part of influences.

Influence of Sound practice (Europa & USA)



I describe my opinion... If SaP is thought as above, it is quite right and the internal environment including 5Ss and sound visual management and others give the influence to the decision making of top management.

Decision making by whom? ...In here, when looking the situation & process of decision making, it seems to be different in Japan and other European and USA.

In the Factory Management-3 (Policy statement & Vision), I have written the word of "Air" and explained in the column of "Morning meeting & speech by leaders"



The *Gemba* Air

1. What is the one's own decision?

Anybody needs to decide somethings daily bases by one's own.

For instance: "This problem is so difficult for me. Then I ask other person's opinion". And, in this case also he made his decision to make question to another person.

And, it is quite natural that most of part of "making decision by a person" is influenced by the circumference (family, neighbourhood, locality, society, familiar person etc.)

According to Mr. Jonah Berger (Associate professor of Pennsylvania University and columnist of Harvard Business Review) We receive the influences from another person and circumference before we are aware of it. And even thought to say that it is "my decision", 99.9% of them are caused to the social influence.

Normally an employee needs to be in the **Gemba** 8 hours in a day, 6 days in a week (the case of Indian factory). And, even Indian workers must have the influence of the **Gemba** to their act.

Therefore, such publication and visibility (in visual control) are important.

I have said that the visibility (in visual control) is important, because it is like "Air". In that way, even though a line worker cannot understand the meaning of graphs & charts (with targets), the visibility in notice board is important, because these are like "Air of the **Gemba**".

2. The qualities of *Gemba* leaders, supervisors.

And in TPM-4 I described as next:

...And as the managerial side effort... ...Anyway, to make the Air (atmosphere) and circumstances. Most of the part of bringing up people is made with the circumstance...

So, let me explain a little bit the Air and the circumstances.

Air?

Once time I have written in somewhere. Above necessary circumstances should be brought up to be like "Air" which doesn't be felt in a life but is absolutely necessary.

A worker might not see their notice board. But It is essential to keep and maintain the notice board and to continue to send information.

Then, the air, corporate culture, **Gemba** culture are brought up with continuous effort.

And it is required to bring up **Gemba**. But how? ...Therefore, I recommend establishing and encourage committee activity in **Gemba** and not to grudge the investment to people.



I wrote such stories and told the importance of **Gemba** Air. These are written from the side of **Gemba** people.

But if considering the influence of such **Gemba** Air from the management side who needs to make decision daily bases, is there some influence? ...Of course, yes.

It is indeed that even top management also is influenced with “corporate Air” and social influence in his intuition & inspiration. And, keeping sound corporate air is essential for surviving and developing the corporate.

The managerial approach to TPM which is the establishment of management cycle:

To visualize & numericalize. Activity Systemize. Policy building.

Target setting & KPI. Kaizen action plan. Skill evaluation system & education. And;

Necessary investment.

Koichi Kimura

“In the end believe your inspiration

&

Cultivate your sound sense”.

Koichi Kimura

V. SaP.

It is indeed interesting. And, I responded her another one of point of view.

For sound decision making including strategy making by top management, most essential thing is the organization to be active and mind flexibility.

Active organization and mind flexibility? ...Let's go back to the company who made the Katazuke activity.

This company had a disease. And it was necessary to dare with regular (each 6 months) Katazuke and found and recognized the huge Muda such obsolescence, duplicate purchasing, overproduction and excess inventory.

Then at this time, not only the **Gemba** people, team members, but also top management and managers participated and re-recognized the situation.

Why occurring such phenomenon? Why top management didn't take action? Didn't they know? Yes, they knew in KPIs... Actually, such company is not rare.

Disease? ...Yes, disease which is a disease of organization and mind (thinking way) flexibility.

Insufficient organization form? ...No, actually not. And the organization form is common.

Again, I introduce the continuation of the dialogue with the president...

—I expected to reform of management system with your teaching, and still I desire to introduce the Lean management System. So, I believe Lean is necessary for our company —the President continued with lean, lean, lean, etc.

I was sick with his Lean explanation and I questioned... —What is your image of Lean, lean lean?

Anyway, we need to do something. And of course, we discussed the introduction of Lean with all managers. And there was no objection against my proposal.

—No objection? All members agreed? —I asked.

—Of course not. Then I invited you to visit us —The President agreed.

—OK I understand. I teach it. But I suggest one condition which is to discuss the SEISO activity to be done by all, including top managers.

—Again SEISO? Why is it necessary? —asked the president.

—Anyway, please discuss with your people. And I will visit once a month. After 3 months, I will visit you once a quarter. After one year we discuss Lean again —I said then.

The president agreed with my proposal reluctantly.

In that way I visited one month later, and I asked the situation of managers meeting and the discussion of SEISO activity by all.

The remarks were:

—How much is our cost/hour as a manager? SEISO by ourselves!? Waste of hours. Why by us. Not our business. And;

—SEISO is Muda. Because SEISO doesn't give any value to products. No, it is wrong. SEISO is necessary therefore we hire sweeping workers. In the first-place what effects there are in SEISO activity which by ourselves?

—We could identify many abnormalities. It was a lack of management. We need to do something.

Etc.

And almost I was negative to implement it SEISO activity by themselves.

But after the remark of KATAZUKE team representative who was invited to this meeting, some managers expressed the agreement to this activity.

The Katazuke team representative remarked as: Souji (SEISO) trains the mind and sensitivity (The teaching of Zen.)

Then the companywide daily SEISO activity was decided to implement. But the attendance was free.

Then, I visited the next month and some changes were possible to recognise. For instance, the president decided to clean up his working desk and keep 3Ss condition; Some managers decided to the area of SEISO: The entrance of the office, etc; Katazuke team continued SEISO activity in divided and scheduled area.

In the third month visiting, the president continued his SEISO activity. One of some managers stopped his activity. One of Katazuke team member stopped her SEISO in the warehouse. But she started her SEISO activity in her working desk and hanged the log of "SEISO trains sensitivity" in her office with the authorization of her superior.

In the regular monthly meeting, managers discussed the SEISO activity. And the negative opinions were many.

In the visit of the middle of third quarter the president act as the same way; Some managers no attending; Some managers continued their activity; Katazuke team increased the member and newly the staffs of purchasing participated.

And I required to the president to confirm the effect of the SEISO activity with all members.

—Confirm and conclude the effect!? —He glumly said.

And I repeatedly required to conclude the effect in ignoring his reaction.

After the third quarter visit, I got a phone call from this company and was declared to stop the consulting contract by phone.

The reason was that their expectation, which was to introduce the something of Lean system, but my teaching was just SEISO activity.

And I agreed to this offer with one condition which was to make final visit as planned.

In the Final visit, I made the dialogue with the president and top management.

At that day he was sullenness. And I made the talk without hesitation.

—What was the result of conclusion of SEISO activity effect? And did you continue the SEISO of your desk which you declared? —I asked.

—We discussed and made the dialogue very seriously in these months. Initially we thought that it was an essential process for introducing Lean. But the opinion of SEISO activity is still "pros and cons". The activity was expanded, and it is true. But still, I can say that, we cannot understand the purpose and effect yet. Our desire is to introduce Lean.

I ignore his expression of desire and told —Serious dialogue, discussed seriously? It is good. And are there any changes?

—A little we made layout change which purchasing department to be closer to warehouse. And, one of remarkable change was the better communication of managers each other. But again, the effect of SEISO activity was accepted by little managers.

—Were the discussions active? —I questioned then.

—Yes, very much so. But the negative opinion is major by managers. I know that SEISO is not bad. And particularly in office, SEISO activity is expanding. But Mr. Kimura —it seemed me to be relegated from the Sensei grade— once again our wish is to introduce Lean. Can you teach us Lean?

In my mind, again lean, lean, lean. Noisy, but I explain as next:

—Now, I exposure the meaning of SEISO activity. As I have told you that your company has a serious disease. Do you remember it?

—Yes, I do. But still I don't understand what the serious disease is —Questioned the president.

—When you discussed with all managers, there was no objection to introduce Lean. Am I right?

—Yes. But what was wrong?

—I questioned you what the image of LEAN is. And I have made same question to your members what LEAN image is. Then I could gain very unclear and disunited image of them about LEAN. Despite the situation, the LEAN introduction was agreed by all. It is quite strange, isn't it? —I asked and continued...

—I say to you clearly; your company's disease is dead organization and mind inflexibility. If say Lean, all members fell in the trap. No, it is wrong word. Again, your company's disease is the sleeping organization and thinking stop.

—In such condition, do you say introduction of Lean? ...I believe you said joke. I don't understand your saying Lean. But probably you wish to make better.

—Mr. President —remarked quietly— I don't like Lean, because it confuses the people Lean to be a magic word. But it is not a magic word which to make better. To improve company and factory, there is no magical method. But unfortunately, many people misunderstand that Lean is as a panacea.

—Why I recommend the SEISO activity? ...Is SEISO Muda? Because it doesn't give a value to the products directly. That is right, if it is defined as above also, SEISO is the job of

lower-class people in your country custom. Therefore, I recommend implementing SEISO (Souji) by managers. The purpose is to sway the organization and flexible mind.

—Sway the organization? — President questioned surprised— And Sensei, —again I could return to the position— Did our organization wake up?... But SEISO activity didn't expand to all yet.

—I don't know. You judge it. But SEISO expansion to all or not is not the major issue. The important issue is the organization was shaking and swaying. According to your saying, during these months there were the discussion and debate quite frequently by managers and **Gemba**. Yes? —I asked and continued...

—Managers visited other managers and made dialogues. This situation is I say natural as an organization. Again, I say to you that your organization was sleeping, and managers mind have no flexibility. Then managers don't visit **Gemba** which is the source of profit. Additionally, even though visiting **Gemba** they cannot find and correct abnormalities...

—How do you think that in such sleeping organization is it possible to introduce (for instance) TPM which is essential theme for your saying Lean?...

—If exchange the theme from SEISO to TPM, can all managers who include indirect department such as (for instance) Accounting, Design engineering, Production planning, Sales be involved? —I questioned...

—I don't know your saying Lean, Lean, Lean. But even if you wish to introduce something new system, methods or thought, it is not possible to introduce them with sleeping organization and inflexible mind which are fatal disease as a company...

—Please listen Mr. President, teaching something new method is very easy. But most difficult thing is to improve the corporate constitution. Therefore, I throw a small stone as the SEISO activity, in your calm pool (organization) to wake up.

—One of my concern was the mind (thinking way) flexibility. I accept your offer that to stop my teaching. And I suggest you make a meeting for concluding the SEISO activity. And I will attend this grand meeting as final visit.

Then the grand meeting was held. And next are the 4 main conclusions:

SEISO activity shook organization.

It is quite true that just introducing SEISO (Souji) activity, managers were influenced. And in the process of the implementation and continuation of SEISO activity, the dialogue of managers and **Gemba** people was active.

The first was SEISO of warehouse by the members. And this activity was discussed to expand to companywide with the condition of participation free.

In the members, a person who wish to implement it in her office appeared.

Some managers continued this activity. And some managers made negative claim to do such activity.

These situation shows that it gave the influence on not only the eager practitioners, but also the managers who didn't participate to it.

A corporate organization becomes sleepy gradually when becoming big. And he becomes to lose the flexibility.

Hereupon the SEISO activity which has no relation to production and even original business.

SEISO is not the original job and (if it dares to say) it is Muda because of no addition a value to the products and additionally it is thought to be the job of lower-class worker. And for accepting such job, the organization and people were confusing and incoherent, because the sense of value and the system are not provided for such event. Therefore, for getting flexibility of such stiffening organization, the SEISO activity was good practice.



To be made a habit of that. And the managers initiative facilitates it.

At this case, the president kept his activity which was SEIRI, SEISO and clean up & wiping his desk. It is true that there were negative opinions. But it was also true that his act encouraged and supported some managers and people's activity.

This company already had the knowledge of 5Ss. And based on this knowledge, there were very positive opinions to SEISO activity. And also, the dialogue was facilitated to find good and lack points of organization and other departments.

The SEISO activity is not the original business. Therefore, it can be said that the good points & lack points to be exposed very easy and frankly.

This company had various problems. And, for solving these he chose the strategy of introducing Lean such unclear theme. However, he didn't understand what the fundamental and essential matters were.

Then it can be said that SEISO activity can be the useful practice to become obvious the theme and ability.



Dialogue between practitioners and observers.

All participated managers and members had the position of practitioners and also observers who observing and searching the meaning. On the other hand, bystanders also observed and checking the meaning of it.

Particularly they were thinking what SEISO is. And, it is true that Souji (SEISO) trains the mind and sensitivity.

And some managers who participated this practice pointed that at least we could identify the company's fundamental problem. And if we can overcome these problems, probably we could resolve current problems.



Practitioners wish to identify the meaning.

Anyway, they were exited. The hardliners of negative opinion were major. And the assertion was that there is no meaning and influence on our business.

SEISO is necessary. Therefore, we hire the sweeping workers. But what is the fundamental purpose to implement it?... Please tell us what is the purpose?

Indeed, I didn't tell them the clear purpose to implement SEISO without KATAZUKE and just recommended to continue SEISO activity.

In first place why is it necessary to be the SEISO activity? Why SEISO? ... Please tell us!

The opinions of the favours were:

- There is a meaning in the SEISO activity with mixed group members.
- One of good point is the barriers between each department to become lower.
- In the members managers also attended. Then it is first experience to make dialogue with manager of other departments regarding business outside of conference.
- Anyway, it is possible to say that the fences between us to become lower.

The hardliners:

- (To a **Gemba** people) Fence to become lower!? Why you hesitate to come my office. When you come, I serve tea or coffee for you and listen your voice. You don't hesitate to visit us.

—But please tell us why SEISO? —they repeated.

The favours.

- (A **Gemba** people) Visit to office!? Do you accept us to leave from **Gemba**!? We need to show and talk in **Gemba** rather than your office where is far from us.
- Why don't you make **Gemba** walk?
- So busy? We also are busy.
- Why SEISO? Because it was the suggestion of the wise man —I got the position of wise man from Sensei at least—.
- Anyway, there are good meanings in this activity.

And they repeated the advantages. Then one Director was required to express his opinion and explained.

—Everybody shall we take a break and take a coffee? And, please listen my talk in feel free. My opinion is that there are some deep meanings and effects. Please listen —He asked.

—As you know I also implemented SEISO activity in my office as president did. Firstly, I did SEISO ordinary. Did SEISO floor, desk, etc. Secondly, I made a small daily base schedule and target. This week polishing glass door Pika-Pika. This week completing SEIRI and SEITON in the desk drawer. Like so on...

—I deviate the talk just a little... As you know I do Mindfulness with Zazen. Firstly, I thought it is easy. But I understand that it is not so easy. When doing Zazen, I should be the mind situation of Mu (Empty in brain. *Mu*; 無 in Japanese. *Muga-no-kyouchi*; Stage of selflessness) ...

—As you know Zen or Mindfulness is useful for fresh up mind. But when starting Zazen, soon something comes to mind. And my major concern is why action plan is uncompleted and always important task is uncompleted. And why, why and why?...

—Mindfulness is not so easy for ordinal man like me and necessary more training. But, yes but, when doing for instance glass polishing, I could be in the stage of Selflessness for a short time. When I concentrated to clean up desk, I found me to be in Selflessness shortly. And after short Selflessness, I start my job and found the differences...

—Now I can express... —he doubted—, I could understand the problem of our company why we cannot complete important business. And at first, I say my thinking what our problem is...

Honestly, I couldn't understand all dialogues because of my poor English. Then these notes include my personnel understanding. But I believe these are correct in general.

—Firstly, we don't take the theme as ourselves theme, but somebody else's business.

—At this time, we decided to introduce Lean. But we didn't try to think about Lean, what our business problem is, what our action which we can do by ourselves, basically what Lean is, how to adopt the methods to our business. And just we decided to invite some consultant to help us.

—And then we invited Kimura Sensei to introduce complete Lean. However, Sensei recommend us to implement SEISO.

—Secondly, Stiffened thinking. SEISO by ourselves (by managers) is unknown and unexperienced activity. And we moved about in confusion, because of unknown activity and we didn't have a mind-set and system to deal with such activity which our habit doesn't accept. Only simple matter. Only SEISO. But we confused as you understand...

—Thirdly, stiffened organization. We can see the phenomenon of stiffened thinking in our organization. Between managers and planning, managers to managers, managers to **Gemba** associates and managers to **Gemba**...

—Sensei told us that he hates the word of "**Gemba** walk", because **Gemba** is the foundation of our profit, therefore managers must be in **Gemba** as natural, but the reality is against. Managers including me are almost in the offices...

—It must be strange thing that managers don't visit to **Gemba**. Only SEISO activity, but we could find our weak points very clearly. However, we (president and I) could find and see a light with through this activity. Because of recently I haven't seen such eager grand meeting...

—Our organization wasn't active and was sleeping. But we could awake with through this SEISO activity...

—I tell the truth that we (president and I) couldn't understand the meaning. Then I questioned the meaning. But Sensei told us "anyway please just do it"...

—Why SEISO? ...It is very simple job which anybody can participate with just broom and dust cloth. On the other hand, it is difficult to do against our habit.

In the director's explanation, everybody accepted and understood the meaning as next points:

1. The SEISO activity by managers and team members has meanings.
2. SEISO is good practice whether managers do or not do.
3. Managers participation is understandable. But still the opinion was not positive, but not negative.
4. It should be recognized that our organization was stiffened.
5. Organization flexibility was stimulated with dialogue in managers and **Gemba**.
6. The stiffened organization was caused the not achievement of plans, strategy making and its implementation.

This conclusion was led by that Director and I got the memorandum from him.

One decision was made that the SEISO activity will continue for the time being. And after SEISO activity, they decided to continue the activity with the name of "3Ss" in participation by all as companywide.

Digression: How was their wish Lean?

1. They decided to consider more deeply the meaning of Lean.
2. What the weak points and defective points for our company are. Quality? Machine control? Efficiency? Material procurement? Sales amount? Lead time?...
3. Lean tools are just tools and the introduction are not the goal. The goal is to make better our weak points.
4. Deciding clear goal in time plan. And final goal is to achieve profit ratio 5.0%.
5. Investigation of our capacity. Human resources. Organization capacity.

Then they decided to lay out their strategy to achieve the goal.

...Now please remember that I'm writing about SaP and **Jishu-Hozen** in TPM and, that is the theme forward.

SaP

The description from now is just my personal understanding and I don't guarantee that my personal opinion is same to the academic SaP (Strategy as Practice).

I believe the meaning of SaP is that:

- A strategy is made under habitual practice. Or
- A strategy making is consisted of the habitual practice.

It is quite natural that a sound strategy construction is not planned by just top management and/or few strategists but has the influences of the external environment (economic environment, politics etc.) and internal environment. And one of big influencer is habitual practice and personal thought.

Of course, the success (achievement) of the strategy also is influenced over by above.

Now, what is necessary for making sound strategy?

I believe you know the teaching of next: "Know your enemy know thyself and you shall not fear a hundred battles." Yes, it is the famous teaching of Sun Tzu's art-of-war. Let's look at the strategy making in the case of this company.

When I made discussion with the president and the director, I used this teaching. Next is the contents of the dialogue:

—We have some difficulties to realize the final goal which is to achieve and keep (for instance) 5% of profit ratio —said the President—, and we considered it in 3 pillars which are Sales, Accounting and **Gemba** reformation. And, to realize it we believe that the solution is to introduce the Lean management...

—Then I ask you to teach and lead the introduction of Lean —the President finally rezoned and continued...

—In fact, such effort is not first time. In the past we made several efforts. But the results were not sufficient to reform our company's performance. Then, recent year, we asked a consultant to innovate our company. Their consultants' recommendation was to apply Lean method.

—And firstly they taught us 5Ss and we applied 5Ss. But unfortunately, the activity was stopped.

I couldn't listen and understand exactly what they explained, because of my poor English. But anyway, again and again, their activity was stopped in half-way and failed.

—I sees. You always finish or stop in half-way. Probably I understand the situation —I questioned—, Lean? Do you wish Lean? I don't teach such vague subject. You like the word of Strategy, strategy, ...and Lean, lean, lean.

—First of all, I don't teach such a thing of Lean. Secondly strategy... In several years you decided strategies and all failed or in half-way. What the problem is. Do you understand? —I asked knowing the answer...

—I tell you 2 things. First one: I think your process of deciding strategy was wrong. I believe you may know the word of "Know your enemy, know thyself, and you shall not fear a hundred battles."...

—In this word: "Know your enemy" is the economic, society, political environment etc. Anyway, you need to see in several ways as; In perspective; In Multidirectional and; Multi-faced. To ask the quantity and quality of information. To examine the current situation as these are. And, "know thyself" is to understand the company's situation in KPIs and also your organizational capacity (**Gemba** capacity, managers capacity etc.) including core-competence...

—I believe you decided the strategy and started the activity in wrong process. One of biggest problem is the understanding of organizational capacity. I understand your goal. I understand your 3 pillars. But why Lean?...

—You need to make action plan to the goal. And why do you choose Lean methods as the method to achieve goal?

Now, I wanted to tell something from Peter F. Drucker⁴...

"In the strategic decision-making, the most serious failure is not to make a wrong answer, the really danger is that the question to ask is wrong."

Peter F. Drucker

In other words, strategic thinking is a strategy thinking, when it is necessary to make a major decision to influence the division management on business and that it is possible to ask an appropriate question "What is a strategy to be" optimal and most effective and high priority in "to capture various information accurately".

—Sensei, I object about your opinion —said the Director—I believe we understand our capacity exactly. Also, we were recommended to adopt Lean method by the consultant. I lead to decide the strategy which is to introduce Lean. I know our capacity and therefore to supplement our lacks, we decided to call professional consultant of Lean.

—Lean, lean, lean— I repeated annoyed in some kind—. I like the insect of cricket who crows "ri-n, ri-n", but don't like human cricket who speak always Lean, lean, lean with no sufficient consideration...

—Mr. director I don't teach such vague subject. I tell you 2 things....

—First of all, the organizational capacity. In such world which the time is past so quickly in developing IT, the most essential organizational capacity is "Flexibility"...

—Therefore, I decided to recommend implementing SEISO activity in order to reveal the organizational problem and to massage it...

—Then the organizational lack which is flexibility is exposed. Moreover, the flexibility, also the dialogue between managers, dialogue managers and **Gemba**, also the contents of discussion, **Gemba** walk, the meeting contents, and among others, flexible thinking. So, your organization is rusting...

—Secondly. Who decided the strategy? ...Mr. Director. Did you decide it, didn't you? ...So, No, I don't think so but only you are under the impression that you decided...

—One strategy is decided in your thinking which is influenced by "the habitual practice and environment".

—Very frankly I tell you that your mind (way of thinking) also is not flexible. Therefore, you couldn't make sound strategy...

—To make strategic thinking, you understand the necessity of "know the enemy & thyself" in Left brain. And, also, you need to drive full rotation of Right brain...

—Therefore, I told you the importance of organizational flexibility in thinking and activity. And, the thinking of Right brain is subject to the habitual practice. But your Right brain is lusty...

—Anyway, you forget Lean —I concluded.

⁴ **Peter F. Drucker:** American management consultant, educator, and author, whose writings contributed to the philosophical and practical foundations of the modern business corporation.

https://en.wikipedia.org/wiki/Peter_Drucker

—Then does Sensei tell us that the strategies and plans were wrong?

—I don't know —I answered—. The success is related to the certain action plan. But it is quite clear that always in half-way and stop and incomplete...

—So, Mr. Director, your speech in the grand meeting was excellent. Then I believe your brain was massaged.

—Yes —told the Director with a bitter smile—. Not only me, but also all of managers brain and organization were massaged. May we discuss next subject which is the continuation of contract of your teaching.

—OK. Before your decision, please listen my plan —I suggested—. I recommend you to 3 steps...

—Firstly, we make up the action plan. And for it, probably we spend 6 months. Secondly the stage of implementation. And, thirdly the diagnosis of effect which overlaps with the implementation of second stage.

—6 months! 6 months for diagnosis and making plan! Too long —Said the President and the Director at only voice.

As the result the request of continuation wasn't come. Yes, I failed the business.

In the visiting report I described next:

You are engaged in the management of this company. And you must make important decisions daily. And the most important decision will be strategy making including action plan. And.

You decided to introduce the system of Lean as the strategy to realize the goal.

By the way, the thing that becomes the basis of the strategy is different from person to person. And the base is changed based on your social perspective and view of life, and how you feel about external and internal environments.

And unexpectedly your strategy making is influenced by these.

What the important elements are for deciding strategy.

Externally, The environments of sales, market, technical, material, human resources and benchmarking, political world trend, ...

Internally. KPIs, organization, ...And Core competence.

However. Please understand, these essential thinking are the range of Left brain (which is the range of AI).

Again, the word of Sun Tzu: "Know your enemy know thyself and you shall not fear a hundred battles."

When making a strategy, above word is not enough nowadays.

Today the information and technology run instantaneously in the world.

In such environment, above just Left-brain thinking is never sufficient. You must consider things in using Right brain.

A strategy also should be made with not only the Left brain (logical thinking brain), but also Right brain (inspiration, intuition based on past image memory).

In the speech, Steve Jobs said as next: "In the end believe your inspiration."

Your defects of making the strategy are 2.

One is that there was no thinking in both left and right brain. I understand the final goal. But unfortunately, the strategy to realize it is misdirected.

Another one is that you have the disease of rigid in organization and mind. When a company becomes big, it is required to work with organization. And the organization becomes bureaucratic. It is quite natural phenomenon. However, the bureaucratic organization becomes rigid and losing mind flexibility.

Your company also grew and became to medium size company. And the level of organizational and mind rigidity is already comparable to big companies.

I believe when deciding the strategy, you studied some of above items. And based on your investigation, you decided to introduce Lean with just its fame. Also, it was decided in unanimous of managers.

I'd like to introduce a little thinking about whether is or not possible to think with Right brain? ...So, no, it is not possible to think willingly. But, in the work of Right brain, there is "inspiration & intuition".

It is quite true that if we provide the environment to raise Right brain, the direction of company's making decision by managers is different.

And, I recommend using the 5Ss activity, factory beautification, rest area with flowers, clean toilet, clean cafeteria, visual information such good practice to raise Right brain.

The condition above subjects raises mind flexibility and Right brain. But, the act of 5Ss activity itself raises the mind. Particularly SEISO by thyself.



The 6-months activity

By the way as an aside.... Is 6-months term for planning too long? Of course, the term is depending on the scale of the company.

Even so is 6 months term too long? ...My way is to make up plan very deeply based on the sufficient diagnosis. It is quite true that it is necessary to make change depending upon the environment change and unknown environment found.

Therefore, it is necessary to provide alternative ideas. In the ideas (not all) I chose ideas to be focused on.

How much ideas to be provided is a capacity of the company and the goal. And it is no necessary to list up all in the action plan.

Even so 6 months.

They were negative to my opinion. Then I recommended to do by themselves and accept the TV conference base teaching (which is pay free).

In the TV conference, I have been informed their strategy:

1. The goal and 3 pillars are same.
2. Individually making diagnosis and make up the action planes.
3. For **Gemba** reformation.
 - a. Implementation of TQM with all **Gemba** participation (including office).
 - b. For keeping action plan implementation.
 - c. Commitment of top management in regular meeting and **Gemba** visit.
4. Also, 3Ss (SEIRI, SEITON and SEISO) by all (including top managers).

They expressed to continue the SEISO activity in the title of 3Ss.

What I taught to this company.

I just taught SEISO which the participation is "free". And I feel my satisfaction about the result.

The summary to my student

I sent above summary of this story in e-mail to this university student for her question.

- "What is the influence to the management?"
- Does 5Ss influence to management?
- Why Japanese management is enthusiastic about 5Ss?

And I added next words:

I'm clear that 5Ss is effective for company management. And, If uses 5Ss by all including top management and own activity (not using outsourcing for SEISO), it can be effective for management and it can be one of good practice which SaP says.

Nowadays the use of Right brain in management is essential for the flexibility of organization and mind.

Little more Mind flexibility.

I wrote the importance of mind (thinking) flexibility.

Is your brain flexible? And, I was thinking what is the act of "Thinking"?

As biological science, thinking is the flow of weak electric signal between the brain cells. (I don't understand exactly.)

And then I decided to think that the act of thinking like a catch-ball between Left brain and Right brain to think about deeply.

And I personally think that thinking has 3 patterns:

Pattern-1.

A flash suddenly occurred with past memory. (Idea suddenly occurs to one.)

*When walking in **Gemba**, a flash suddenly occurs to the manager, what is unusual noise?*

This "flash suddenly come" is the work of Right brain. And immediately the Right brain starts to search the past image in Right brain also requires to logical think to Left brain.

Then the brain recognizes the noise is unusual in the past experience.

Oh? What could that (for instance) noise be?

How the manager could recognize the unusual noise of "kachi, kachi" as unusual?

The unusual noise can be recognized with the amount of experiences of Right brain which stores such experiences with image.

*I have had an opportunity to attend the **Gemba** walk by managers. I and the director walked a little late from the managers.*

And I wondered why the factory manager doesn't recognize the old light flushing, a window glass broken.

And I judged these things are not unusual but are usual by this factory manager.

In an aisle side there are some containers of work-in-progresses.

This situation also not unusual for this factory. Then.

Suddenly a rhythm of a machine was disordered and occurred a noise. However not only the factory manager, but also the director mentioned nothing.

It was unusual. I believe it was unusual noises definitely.

I thought that the managers couldn't recognize unusual as unusual. Why?

I believe they have the experiences in their Right brain. But there is the case of no "flash suddenly come".

Why? ...I don't know.

Pattern-2.

A flash suddenly occurred with no experience.

You know Isaac Newton.... When he was 21 years old, he found the law of universal gravitation.

The trigger of finding it is ...When sitting under an apple tree, a ripe apple fell down on his head. Then he thought about why the apple fell down straight and why not move to above or to sideway.

Now please think about it... Normally does a person think about why an apple fall down. (Even though at that era). He thinks about "why".

A child makes question why, why and why. According to a book brain of child firstly develop the right brain. And after left brain in the experience and learning.

Such sense of "why" becomes from Right brain. But this case is different to above "flash suddenly come" of pattern-1.

Pattern-3.

The case of abnormality or problem is clear and thinking rout cause.

In this company I have seen the paper of 5Why analysis. This company got a customers quality claim which the delivery was last month.

And this company was required to submit the countermeasures and cause analysis in 5Why sheet by the customer.

Their 5-Why analysis:

Problem occurred: *Wrong part assembled.*

The right brains of quality engineers flushed an assumption in past experiences. And they wrote first Why.

- *Why-1. A material handler delivered similar but wrong part to the assembly line. (In the past there was such problems.)*
And then the Left brain thought the cause logically. And wrote second Why.
- *Why-2. Material handler didn't check before handling.*
- *And continuing to make assumption.*
- *Why-3. There is no "rule" to check before handling.*
- *Why-4. Such rulemaking was left to just **Gemba** supervisor and personal.*
- *Why-5. In the companywide, there was no rule to make rule.*

Then the countermeasure decided was to make companywide rule.

(This is a true story in the company.)

Then I suggested them to make various kinds of assumptions.

Assumption of again relating to wrong material supply.

Problem occurred: *Wrong part assembled. (same to above theme)*

- *Why-1. A material handler delivered similar but wrong part to the assembly line. (same to above)*
- *Why-2. Similar part B was mixed in the location of necessary part A.*
- *Why-3. The similar parts locations were next to each other.*
- *Why-4. There was the lack of considering location.*
- *Why-5. There was no rule to decide locations for similar parts.*

Then the countermeasures are

1. *To make the rule for similar parts location.*
2. *Visual aid for similar parts.*

Assumption of problem in assembly process.

Problem occurred: Wrong part assembled. (same to above theme)

The assembly line uses the mixed production system. And major product is A which uses the part A and product B which uses part B. And the product part number B requirement is very rare.

- *Why-1. She (assembly worker) couldn't recognize the product B coming.*
- *Why-2. There was no signal of coming the product B part used.*
- *The rule is to signal with visual sign for the rare product B in line.*
- *Why-3. The start assembly worker couldn't recognize the product B order in the order label.*
Indeed, the products number is just one number in 12 digits different
- *Why-4. In the order label there is no any mark to identify the product B.*
- *Why-5. There is no rule to make mark in order label.*

The countermeasures were:

1. *Temporally the supervisor was required to make mark in the order label with colour pen for rare product B.*
2. *As the permanent countermeasure, it was decided to use the colour code for rare products in the label printing process.*

Other assumption... I omit....

Anyway, it is important to make various assumption when making 5Why analysis.

By the way fish-bone-diagram... In fact, I don't like 5Wys which is used by the world. Because only one assumption is never sufficient and poor. However, when look at the real example of 5Why analysis is always just one. Why? Why so poor assumption idea? It is never enough.

In some where I have written fish-bone-diagram. And I told that each main branch are the variation of assumption.

And one of idea is to use the branches of Man, Machine, Material and Method. The meaning of use these as the branches is to imagine the root cause in these triggers.

For instance, Man... This company got the customers claim (quality concern). And they analysed with 5Why.

- *The trigger of Man:* *Material handler. But why only material handler? Assembly worker? Supervisor? Or other relevant people?*
- *The trigger of assumption Machine:* *Material rack and storage location, Poka-Yoke in assembly line etc.*
- *The trigger of Material:* *Similar product.*
- *The trigger of assumption of Method:* *Rule of product number, storage location layout, making, visual signal etc.*

Anyway, it is necessary to make various assumption in imagination.

I wrote the example of 5Why analysis. And, you know FMEA (Failure Mode and Effect Analysis). As you know this is a systematic analysis method of "potential" failure.

When you make this for a new product, you firstly refer to similar product which you have the experience. And if the product is completely new and no experiences, how do you make it? Anyway, you require to generate new ideas.

Above both of them, it is required your idea capacity. And, what is idea capacity? ...It is flexible mind.

Gemba-Walk by manager.

Can factory manager make **Gemba-Walk**? ...I wrote the case of Japanese manager (Toyota person) and managers of a company. The managers of a company couldn't recognise some abnormalities.

Why managers couldn't feel abnormalities as abnormality? ...Lack of management consciousness? ...No, they have the consciousness. And, they wish to improve their company. (I felt so.)

Why they cannot? ...Simply, they don't realize as to be abnormal.

Well! ...How to train them?

Gemba-Walk by office people.

Design engineers are required to make VA/VE activity. And if they cannot it sufficiently, the solution is also same to the case of managers. So, one of the solutions is to make **Gemba-Walk**.

Gemba-Walk is never the exercise for obesity but sharpen the sensitivity. And have the doubt to anything.

I recommend you using the 5 Whys (which is not the 5 Why analysis.) in factory daily bases. And if you find serious Why, immediately call relevant people and discuss it.

*"**Gemba** is a Doujou of training **Gemba-Walk**".*

As I wrote the word of Kiichiro Toyoda which:

*"Go to **Gemba** and wash your hands 10 times".*

And it is quite true that:

*"The staffs (white collar) who don't go to **Gemba** are worthless".*

Again, it is easy to teach methods such 5Why, FMEA, TPS, Kaizen whatever. But more difficult thing is to train people with through the development of company constitution.

Gemba people.

Machine operator. Please sharpen your 6 senses in Right brain with through the game of Maintenance SEISO. Please find abnormalities and put cards and record. And please enjoy this game which you can recognize the progress of your sensitivity.

Using sensitivity in Right brain doesn't involve any pain. Because normally an ordinary person uses his Right brain quite few percent of Right brain capacity (according to a theory, the use of Right brain is only 6%.)

By the way the word of Steve Jobs:

"In the end, believe your inspiration."

When making decision which are even corporate decision making, strategy or daily life decision, finally you obey your inspiration. However obeying inspiration sometimes becomes the cause of failure.

His word which is the purpose of encouraging student has (I believe) next meaning:

"In the end believe your inspiration"

&

"Cultivate your sound sense".

Nowadays, it is the era of computer and AI. And, therefore, it is required to cultivate human 5 senses plus 6th sense which is intuition, feeling, flush suddenly come.

How to cultivate 6 senses (flexible mind)? ...It is to implement "good practice" in social and in **Gemba**.

What are good practices in social and **Gemba**? ...Please think about by yourself. I have already written it.

But I suggest you additional one good method... It is KJ Method⁵.

KJ Method which uses cards is the technique of association of ideas, generation of new ideas based on intuition.

For cultivation of flexible mind, Zen and Mindfulness, Yoga which are the spiritual training are good. And for cultivating flexible mind good practices also useful.

But please add the use of KJ method for your job willingly. And, diversity in organization also good idea for organizational flexibility.

⁵ **KJ method** developed by Sensei Kimura is explained in the book *"The System of Excellence"* in the Annex-A where explained the PDCA-Method deployed, also by Sensei Kimura and explained thoroughly by Eduardo L. Garcia. Paperback <https://www.amazon.com/dp/1973409771> & Kindle version: https://www.amazon.com/System-Excellence-Management-Framework-Constitution-ebook-dp-B077SGKSB1/dp/B077SGKSB1/ref=mt_kindle?_encoding=UTF8&me=&qid=

I hope your flexible mind for TPM or other system introduction.

Because, the world is changing very rapidly. Of course, the environment of TPM (needs and methodology) also is changing.

VI. Next Lecture

I continue to write Maintenance SEISO. And, I write the concrete method of SEISO.

Koichi Kimura CC4 – December-2018.